



AVer FC1020-P

User Manual

Table of Contents

PREFACE	1
PRODUCT SPECIFICATIONS	1
PRODUCT INSTALLATION	6
MONITOR SETTING	6
HARDWARE INSTALLATION AND I/O PIN ASSIGNMENT	7
POWER OVER ETHERNET (PoE)	10
IP ASSIGNMENT	11
FINDING IP CAMERA BY USING “NXU LITE RECORDING SOFTWARE”	11
FINDING IP CAMERA BY USING “AVER IPCAM UTILITY”	14
USING NON-DHCP SERVER/ROUTER NETWORK.....	16
INSTALL ACTIVE X CONTROL	18
USING THE IP CAMERA BROWSER INTERFACE	20
PREVIEW	20
SYSTEM > GENERAL	23
SYSTEM > GENERAL > MAINTENANCE.....	23
To Upgrade the IP Camera Firmware	24

SYSTEM > GENERAL > DATE & TIME	25
SYSTEM > USER MANAGEMENT	26
SYSTEM > USER MANAGEMENT	26
SYSTEM > NETWORK SETTING > SETTING	28
SYSTEM > NETWORK SETTING > SEVER	29
SYSTEM > NETWORK SETTING > DDNS	30
SYSTEM > NETWORK SETTING > OTHER 1	32
SYSTEM > NETWORK SETTING > OTHER 2	34
SYSTEM > NETWORK SETTING > IPV6	38
SYSTEM > ADVANCE > HTTPS	39
SYSTEM > ADVANCE > SNMP	41
SYSTEM > ADVANCE > ACCESS LIST	43
SYSTEM > ADVANCE > QoS/DSCP	44
SYSTEM > IMAGE	45
SYSTEM > IMAGE> OSD	45
SYSTEM > IMAGE > PREFERENCE	46
SYSTEM > IMAGE> ADVANCED	47
SYSTEM > VIDEO STREAM > GENERAL	50
SYSTEM > VIDEO STREAM > STREAM1	51

SYSTEM > VIDEO STREAM > STREAM2	53
SYSTEM > VIDEO STREAM > STREAM3	55
SYSTEM > AUDIO	56
SYSTEM > SD CARD	57
EVENT > ARRANGEMENT > MOTION	58
EVENT > ARRANGEMENT > PREFERENCE	59
EVENT > SCHEDULE	62
EVENT > DI/DO	63
STATUS INFORMATION	64
NETWORK CONFIGURATION	65
FACTORY DEFAULT	67
TROUBLESHOOTING	68
APPENDIX	69
FCC NOTICE (CLASS A).....	70
COPYRIGHT	70
LIMITED WARRANTY	71
GOVERNING LAW AND YOUR RIGHTS	72

Preface

The FC1020-P is a compact cube camera for indoor use with two-way audio communication. It has the added security of a Micro SD based local backup capacity ensuring that images of events also save locally when the alarm is triggered or the network is down. This compact camera offers HD720p resolution and advanced features including intelligent motion detection and privacy masks. The 1.3-megapixel H.264 FC1020-P camera can provide your system with good quality, discreet indoor surveillance.

Product Specifications

- 1M cube camera
- HD Definition (720p) support
- Built-in IR LED (distance :8 Meter) for night view
- Support PIR function
- Digital Wide Dynamic Range
- Power over Ethernet (PoE)
- H.264/MJPEG compression formats
- microSD card backup (SD card is not included)
- 2-way audio
- Adjustable shutter speed
- Support iPhone/ iPad/ Android phone and tablet
- Free bundled 32-CH AVer NXU Lite recording software

Specifications


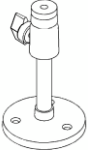



Hardware	
CPU	Multimedia SoC
RAM	128 MB
Flash	16M
Image sensor	1/4" CMOS (1 Megapixel)
Lens Type	2.8mm@F1.8, Megapixel fixed lens
View Angle	76°(H), 47°(V)
Shutter time	1/10~1/24,000 sec
Min. illumination	Color : 0.3 Lux (IR LED ON) B / W : 0 Lux (IR LED ON)
I/O	1 Sensor in /1 Relay out
MIC in	1
Audio Out	G.711(64K) and G.726(32K,24K) audio compression Input : MIC built-in Output : 3.5mm phone jack, or Speaker Support 2-way audio
IR distance	8 Meter
PIR	Yes
Power Over Ethernet	Yes
Power Consumption	DC12V : 2.6W(IR Off), 3.9W(IR On); PoE : 3.22W(IR Off), 4.18W(IR On)
Dimensions	62mm x 100(mm)x 44(mm)
Operation Temperature	0°C ~ 45°C
Weight	150g (without bracket); 270g (with bracket)
Network	
Ethernet	10/100 Base-T
Network Protocol	IPv6, IPv4, HTTP, HTTPS, SNMP, QoS/DSCP, Access list, RTSP, TCP/ IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP, SAMBA, Bonjour

System	
Video Resolution	1280x800@30fps, 1280x720@30fps, 800x600@30fps, 640x480@30fps, 320x240@30fps, 176x144@30fps
Video Adjust	Brightness, Contrast, Hue, Saturation, Sharpness, AGC, Shutter Time, Sense-up, D-WDR, Lens Distortion Correction, Flip, Mirror, Day&Night adjustable, Red Gain and Blue Gain, Denois, Anti Fog
Triple Streaming	Yes
Image snapshot	Yes
Full screen monitoring	Yes
Privacy Mask	Yes, 5 different areas
Compression format	H.264/ M-JPEG
Video bitrate adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered action	Mail, FTP, Save to SD card, DO, SAMBA
Pre/ Post alarm	Yes (Pre: 5 secs/ Post: 5 secs)
Security	Password protection, IP address filtering, HTTPS encrypted data transmission, QoS/DSCP
Firmware upgrade	HTTP mode, can be upgraded remotely
Simultaneous connection	Up to 10
Audio	Yes, 2-way (mono)
MicroSD/SDHC card management	
Recording trigger	Motion Detection, IP check, Network break down (wire only), Schedule, DI
Video format	AVI, JPEG
Video playback	Yes
Delete files	Yes

Web browsing requirement	
OS	Windows 7, XP Microsoft® IE 8.0 or above [Note] Please enable “Compatibility View” while using IE 10 or above.
Hardware Suggested	Intel® Dual Core 2.53GHz, RAM: 1024MB, Graphics Card: 128MB
Mobil support	iOS 5 or above, Android 1.6 or above.

***SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

Package contents

Item	Descriptions
	1. FC1020-P
	2. Bracket
	3. Screw pack
	4. Power Adaptor (Optional)
	5. CD (User's Manual and Quick Guide, NVR software included)

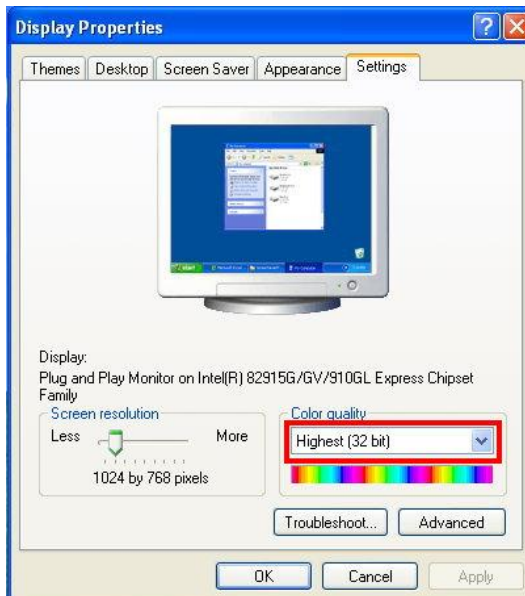
Product Installation

Monitor Setting

1. Right-click on the desktop. Select “ **Properties**”



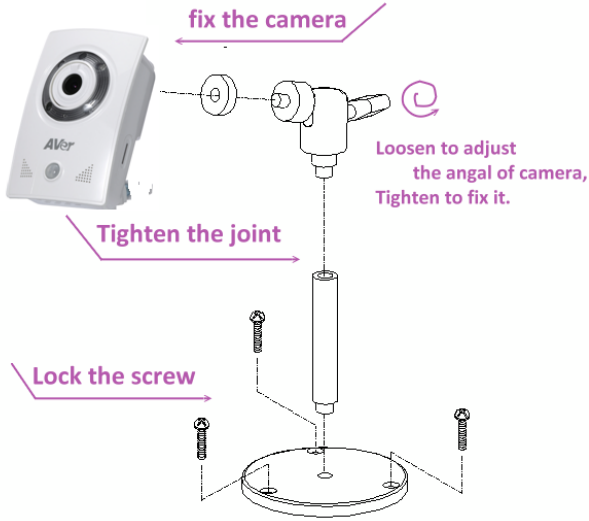
2. Change “Color quality” to “**Highest (32-bit)**”.



Hardware Installation and I/O Pin Assignment

1. Install with bracket

Please refer to the picture for camera installation. Use the screws to lock the bracket to the wall or ceiling, and then connect the camera to the bracket. There's a knob on the back of the bracket. Loosen the knob and you can adjust the angle of camera. Tighten it to fix the angle.



2. Connector Instruction

The camera connectors are as below. Connect the power and the Ethernet cable with the camera, and set it according to your network environment.



3. Adjust focus

Use the rotary dial to adjust focus until the image is clear.

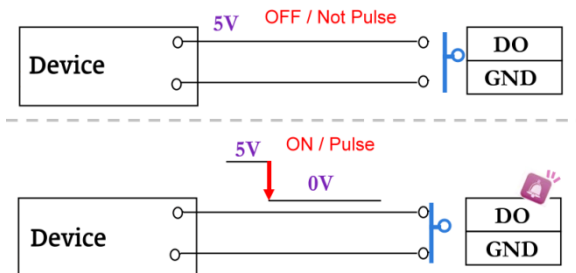


4. I/O Configuration

I/O Connection



- a. Please connect the G & DO pin to the external relay (buzzer) device
When no event happens, DO output is 5V (DO and GND are disconnected). When the camera detects an event happening and triggers an external alarm, DO output is 0V (DO and GND are connected).

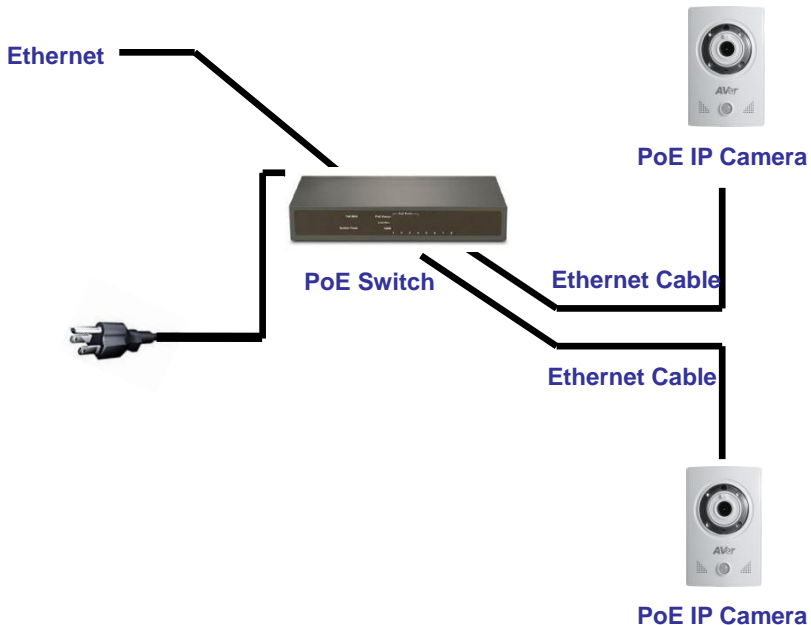


- b. Please connect the G & DI pin to the external trigger device.
If you select "N.O" in "Input sensor setting", when an external device or circuit makes DI and GND pin connected, the camera input alarm is triggered, and then camera will execute the action user has set, for example, send snapshot to E-mail address.
If you select "N.C" in "Input sensor setting", when external device or circuit makes DI and GND pin disconnect, the camera input alarm is triggered, and then camera will execute the action the user has set, for example, send snapshot to E-mail address.

Power Over Ethernet (PoE)

Set up the IP camera through Power over Ethernet (PoE). PoE is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP camera, using the same cable that is used for network connection. It eliminates the need for power outlets at the camera locations.

[Note] PoE (Power Over Ethernet) (Optional) 802.3af, 15.4W PoE Switch is recommended.




IP Assignment

There are two ways to find IP Cameras:

- Finding IP Camera by using the “**NXU Lite recording software**”
- Finding IP Camera by using the “**AVer IPCam Utility**”

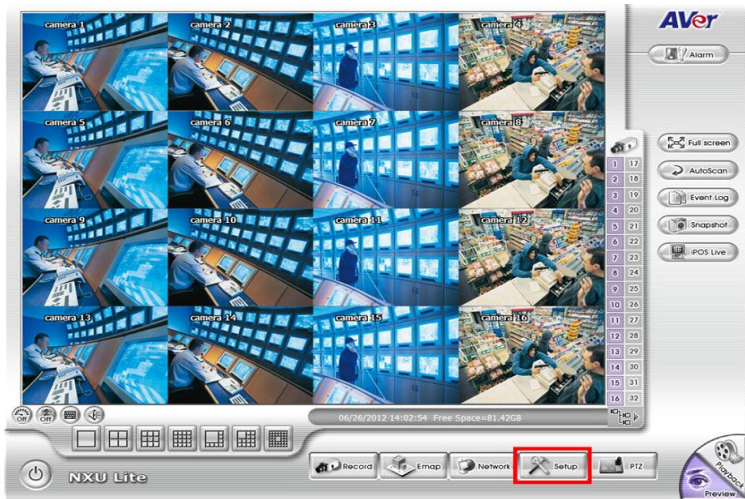
Finding IP Camera by using “NXU Lite recording software”

1. The NXU Lite software is in the attached software CD. Before launching it, please install the software first. During the installation process, users will be required to input a User name and Password for login NXU Lite system. Users can define the User name and Password as desired. Please refer to the NXU Lite user manual for detailed installation instructions.
2. To run the application, double-click  on your PC desktop or click **Start > Programs > DVR > NXU Lite**. For security purposes, some of the features require you to enter the User name and Password before it can be accessed. When the Authorization dialog box appears, key in your User ID and Password. (If this is the first time, enter the one you have registered when installing the software.)

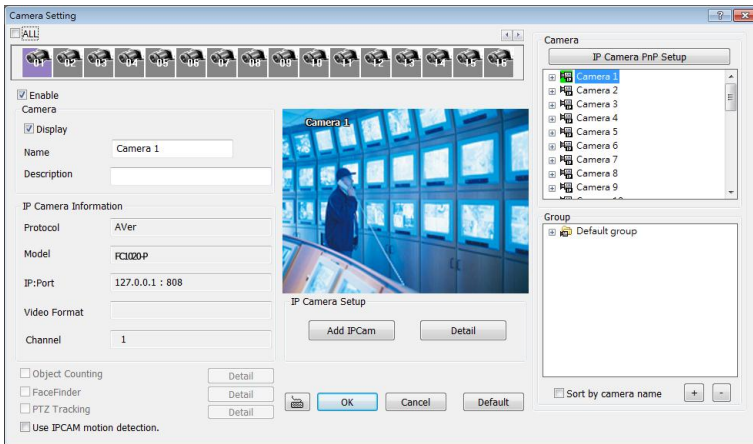


Click it to call out the virtual keyboard.

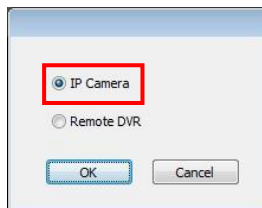
3. Click the “Setup” button.



4. Click the “Add IPCam” button.



5. Select “IP Camera” item.



6. Enter IP Camera's ID and Password (default is **admin/admin**) and click “**Auto Search**” to find camera.

Auto Search

IP Camera Information
F/W: 1.1.2.36

Protocol: AVer
Model: FC1020-P
Video Format: Auto
Channel: 1

IP Camera Site: 10.100.91.44 : 80

URL: http://

Authentication: Authentication
ID: admin
Password: *****

Enable Audio

Save & Exit Connect Cancel

7. In the Search Result window, click the IP camera model that the user has purchased (**Please ignore ONVIF connection item**); the camera is in red text that is configurable. Users can Click on the camera in the red text and configure the IP camera's settings; even if the IP camera is not in the same IP segment. Press “**OK**” to go back to the previous screen and press “**Connect**” to start live view.

Item	Protocol	Model	IP Camera Site
1	AVer	FB3027	10.100.91.44
2	AVer	FX3000-R	10.100.91.44
3	AVer	FC1020-P	10.100.91.44 80
4	ONVIF	---	http://10.100.91.44:80/onvif/device_service 80

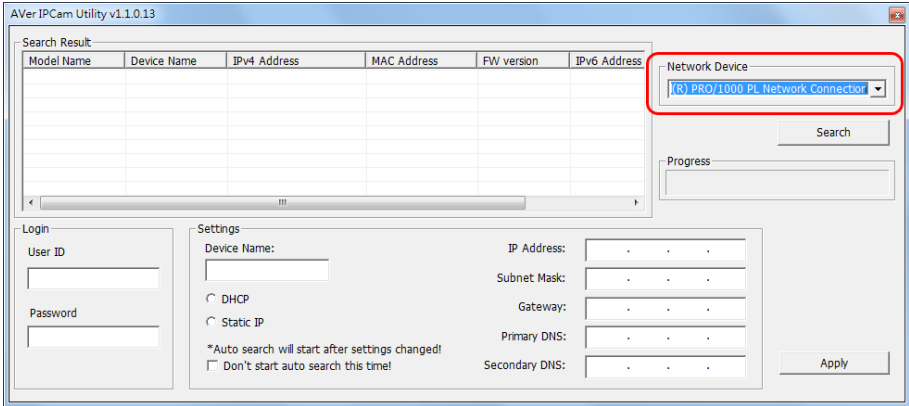
Click the IP camera model that user has purchased.

Please ignore ONVIF protocol selection; NXU Lite doesn't support ONVIF connection.

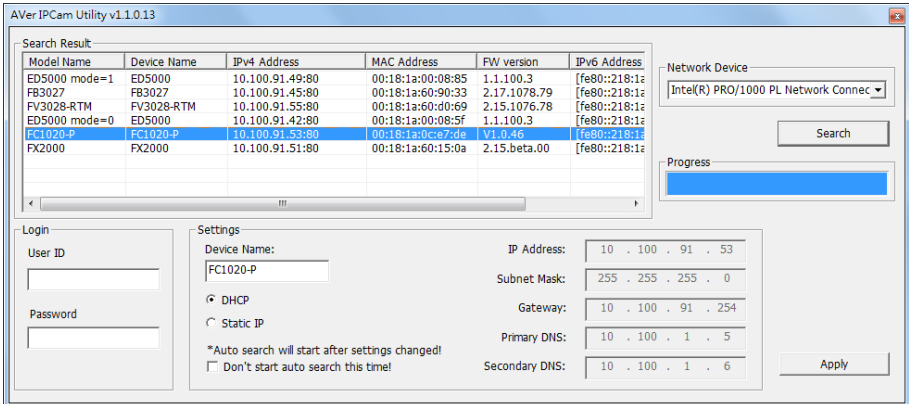
Search OK Cancel

Finding IP Camera by using “AVer IPCam Utility”

1. Use the software, “**AVer IPCam Utility**” to assign the IP address of the IP camera. The software is in the attached software CD.
2. Run the IPCam Utility
3. Select the proper network adapter and click [Search] to begin searching.



4. Select and double click the IP camera you want to access. If you want to change the setting of the selected IP camera, enter the user ID, correct password, and change the settings and then click **Apply** button. This will change the setting and rescan the network again.



5. The IE browser will open and direct you to IP camera login page. This requires IPViewer.ocx to run. If the IE ActiveX warning message appears, click to allow running the add-on.



Default ID: admin
Default Password: admin

[Note]

- The default IP address is: 192.168.1.168
- The default ID and Password are both "**admin**".
- You can't enter a device name in Chinese or any other special characters (' " \ & ^).
- Gateway number can't be "0".
- IP camera device name should be less than 30 digits

Using NON-DHCP Server/Router Network

In Non-DHCP server/router network, the static IP address must be assigned to the device each time when adding another IP camera to the network; the default IP address of the current one must be changed to avoid conflict.

Please make sure the Subnet of the PC's IP address and the IP camera's IP address are the same.

[Example]

The same Subnet:

IP camera IP address: 192.168.1.168

PC IP address: 192.168.1.100

Different Subnets:

IP camera IP address: 192.168.1.168

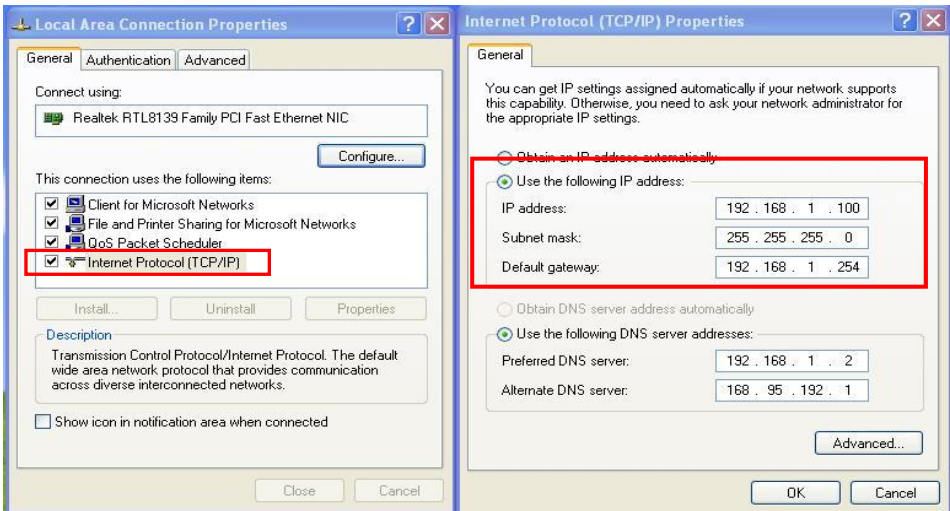
PC IP address: 192.168.2.100

To Change PC IP Address:

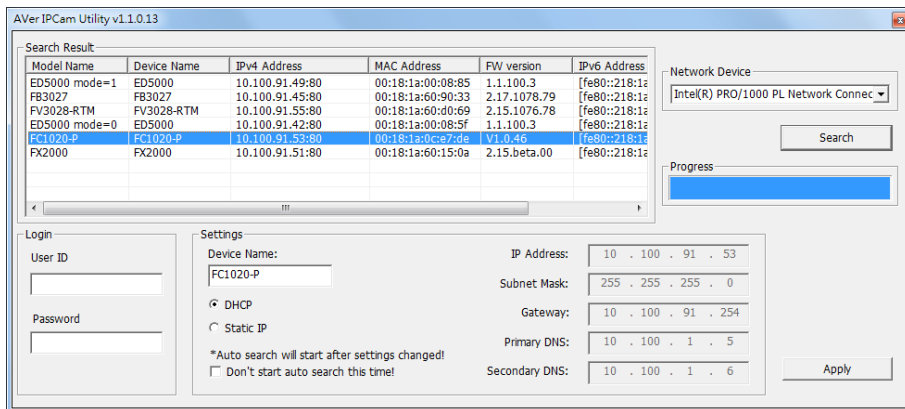
Control Panel → Network Connections → Local Area Connection Properties → Internet Protocol (TCP/IP) → Properties

Please make sure your IP camera and PC have the same Subnet. If not, please change IP camera subnet or PC IP subnet accordingly.

PC's IP address:



IP camera IP addresses:



A quick way to access remote monitoring is to double-click on a selected IP camera in “Camera Name list” in AVer IPCam Utility. Then, the IE browser will open and connect to IP camera.

Then, please key in the default “ID” and “Password”, both of which are “admin”.



[Notes] Please enable “Compatibility View” while using IE 10 or above.

Install ActiveX Control

The first time you attempt to view the camera video via Internet Explorer, it will ask you to install the ActiveX component.

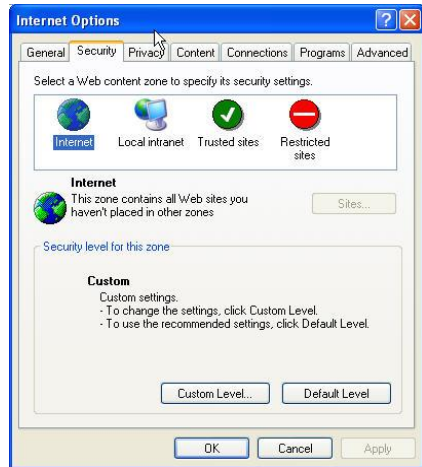
If the installation fails, please check the security settings for the Internet Explorer browser.

1. IE → Tools → Internet Options... → Security Tab → Custom Level... → Security Settings → Download unsigned ActiveX controls → Select **"Enable"** or Prompt.
2. IE → Tools → Internet Options... → Security Tab → Custom Level... → Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

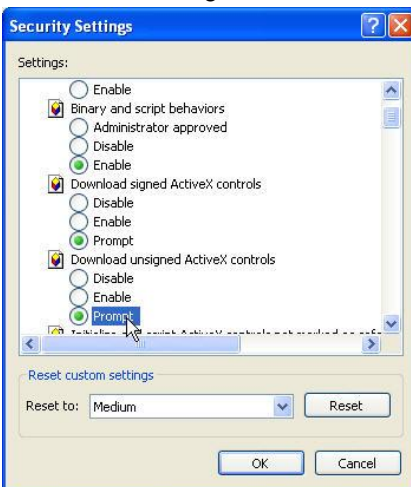
1



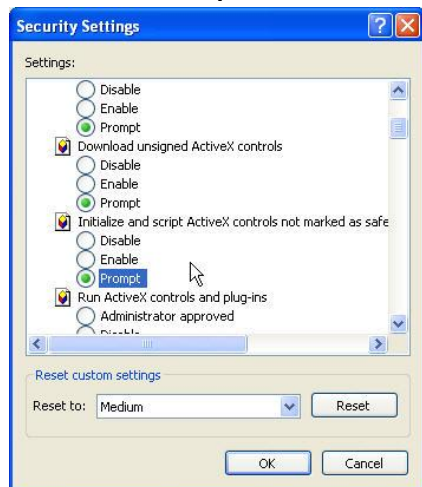
2



3

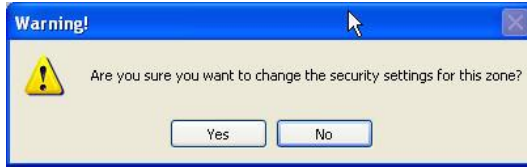


4



5

When the following dialogue box appears, click **“Yes”**.

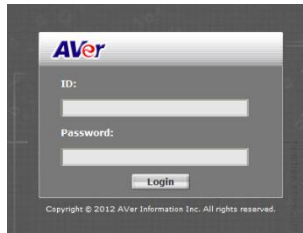


Using the IP Camera Browser Interface

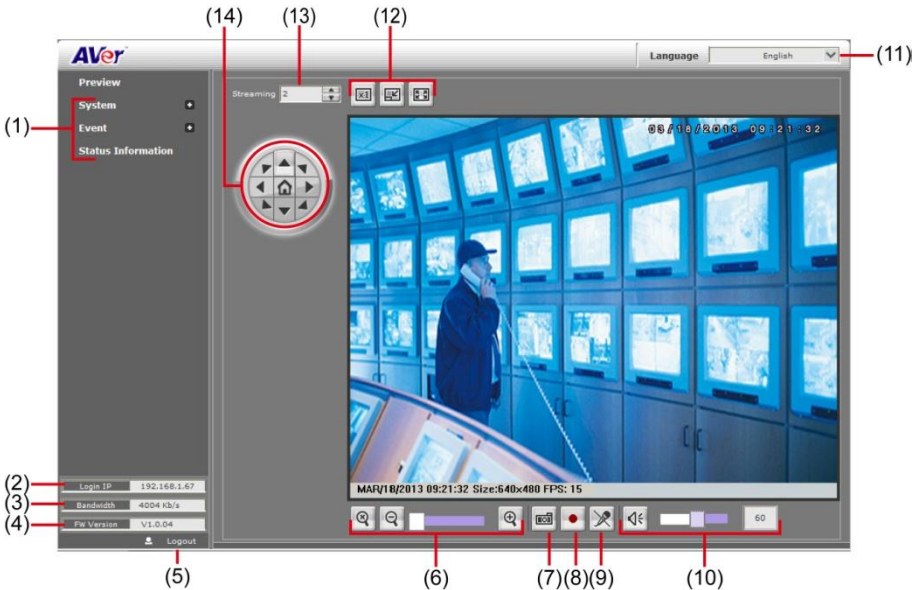
The admin has full access to the IP camera browser interface. You can expand the menu on the left and navigate to access all the features.











Preview

Launch the Internet Explorer browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the "ID" and "Password". The default "ID" and "Password" are both "admin".



Once connected to the IP camera, the following program interface will appear.



Name	Function
(1) System/Event/Status Information	Set up IP camera's configuration.
(2) Login IP	Show PC's IP address
(3) Bandwidth	Show current IP camera's transmitting bandwidth
(4) FW Version	Show IP camera's current firmware version
(5) Logout	Exit the application
(6) Zoom control	 Reset zoom level.  Increase zoom level.  Decrease zoom level.  Use the scroll bar to zoom in or zoom out the video screen
(7) Capture	 Capture and save the image on the screen in *.bmp format
(8) Record	 Start/stop audio and video recording. The recorded video will be saved in *.avi format.
(9) 2-way Talk	 Click the Microphone button to talk to IP camera side from user site. Click this button again to mute this function.
(10) Speaker	 Turn on the PC's speaker so that PC side can hear sound from IP camera side. Click this button again to mute this function.  Use the scroll bar to adjust the speaker volume.  It shows the current speaker volume's value.
(11) Language	Select the browser interface language.

(12) Video screen

Change the video screen display.



Display the actual video pixel size



Display the video screen in compact size.



Display the video in full screen mode. Press ESC to exit full screen mode.

(13) Stream

Switch to view the video stream type. The IP camera can send multiple video streams of up to 3 types. To change the video stream setting, go to System > Video Stream.

[Notes]When streaming 2 setting in "**Video Setting**" is closed, there won't have other stream option

(14) Direction Controller

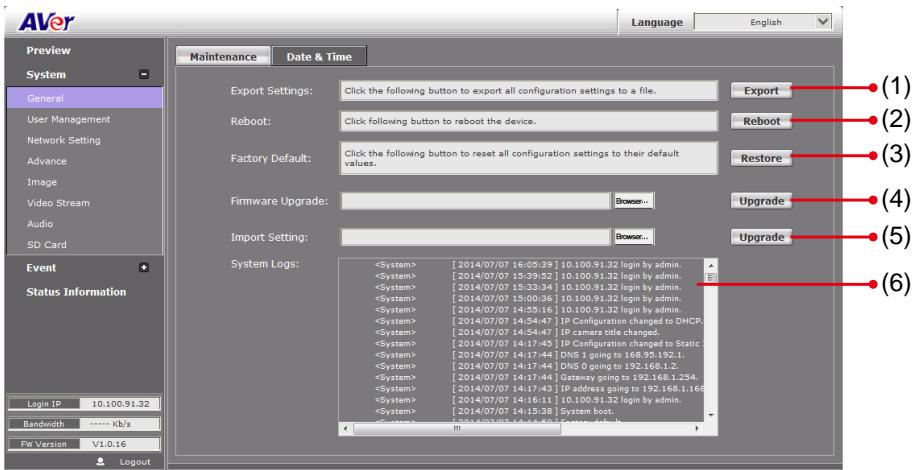
Move the position of the view point while in zoom mode. User has to zoom in first.

System > General

In this section, only admins are authorized to configure the IP camera system maintenance and the date and time settings.

System > General > Maintenance

In the Maintenance tab, the administrator can check the system event log, upgrade the system firmware, reset the configuration settings without having to change the user management and network settings, reboot, and restore all back to factory default settings.



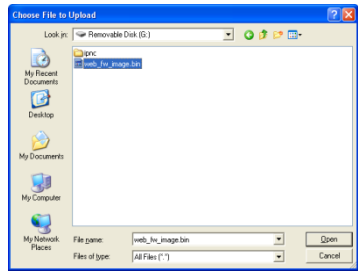
Name	Function
(1) Export Settings	Upload to save all the configuration settings from the IP camera to the computer hard disk.
(2) Reboot	Turn the IP camera off and on again.
(3) Factory default	Set all the configuration settings back to default except the user management and network settings.

Name	Function
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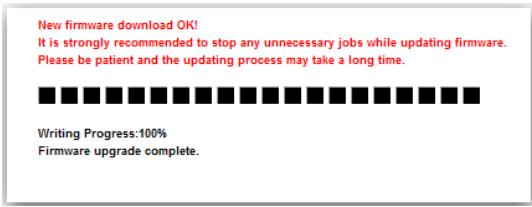
(4) Firmware Upgrade Upgrade the firmware to the latest version.

To Upgrade the IP Camera Firmware

1. Download the file from our website and save it in your computer hard disk.
2. Click Browse. Locate and select the file and click Open.
3. Click Apply. Wait till you



see the message "Firmware Upgrade OK!". You may now click the Internet Explorer browser refresh button or press F5. The login page will appear.



(5) Import Download to replace the current settings with the configuration settings file from the computer hard disk to IP camera.

[Note] If the import setting of input resolution is different from existing value, the camera will reboot automatically. For example, if the current resolution is 1280x720 but your import setting is 1280x1024.

(6) System log Display the IP camera system event log.

System > General > Date & Time

In the “Date & Time” tab, the administrator can set and update the system’s date and time. After filling in the correct settings, click **Apply** to apply the new settings.

The screenshot shows the AVer system configuration interface. The left sidebar contains navigation options: Preview, System, General (selected), User Management, Network Setting, Advance, Image, Video Stream, Audio, SD Card, Event, and Status Information. The main area is titled 'Maintenance' and 'Date & Time'. It includes the following fields and options:

- Current Date & Time: 2014/7/7 16:15:29 Time Zone: GMT+08:00
- Date Format: yy/mm/dd mm/dd/yy dd/mm/yy
- Time Zone: GMT+08:00
- Enable Daylight Saving
- Setting Method:
 - NTP
 - NTP Server: pool.ntp.org
 - Update: 6 (Hour)
 - Time Shift: 0 (Minutes)
 - Synchronize with PC's time
 - Date: 2014/7/7 Time: 15:55:0
 - Manual
 - Date: 2014/7/7 Time: 15:45:10
 - The date and time remain the same.

Red arrows point to the following elements:

- (1) Current Date & Time field
- (2) Date Format radio buttons
- (3) Time Zone field
- (4) The entire Setting Method section

Name	Function
------	----------

- | | |
|-------------------------|---|
| (1) Current Date & Time | Display the current date and time. |
| (2) Date Format | Select the date display format. |
| (3) Time Zone | Set the local time zone. Check the box next to “Enable Daylight Saving” to enable and setup the start date and end date for daylight saving time. |

This screenshot shows the same AVer system configuration interface, but with the 'Enable Daylight Saving' checkbox checked. The 'Setting Method' section is expanded, showing the NTP, Synchronize with PC's time, and Manual options. The 'Date & Time' tab is selected, and the 'Apply' button is visible at the bottom right.

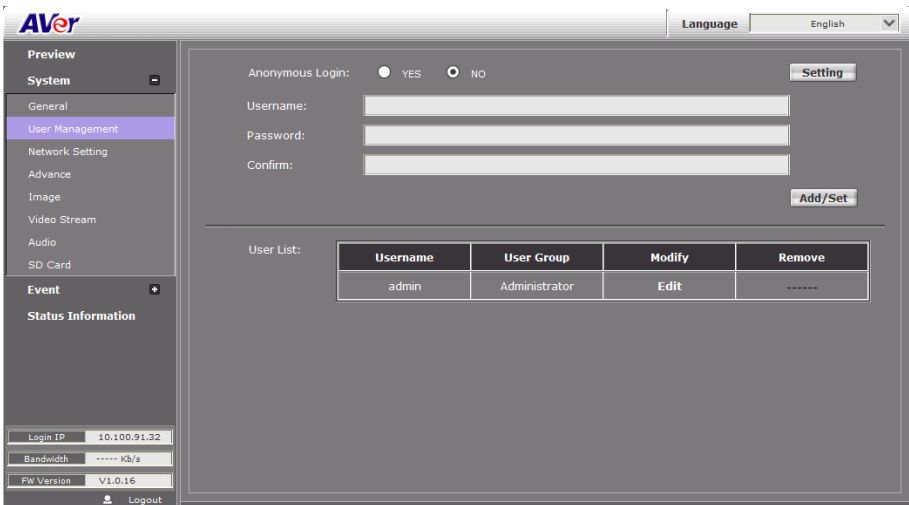
Name	Function
(4) Setting Method	<p>Select the date & time settings method.</p> <p><u>Sync with current PC</u> – Obtain the date and time setting on the current login computer.</p> <p><u>Sync with NTP Server</u> – Obtain the date and time setting from NTP server. In the drop-down list, select the NTP host name.</p> <p><u>Manual</u> – Manually set the date and time. Click “Done” to close the date and time interface.</p>

System > User Management

In this section, only admins are authorized to create, delete, and edit the account in Account tab and configure the client connection settings in Connection tab.

System > User Management

IP camera supports two different user accounts – Administrator (Admin) and Guest User.



User Type	Access Rights
Admin	Can access all the configuration pages
Guest User	Can only access the preview and status information pages.

■ Anonymous User Login

- ✓ **Yes:** Allow an anonymous user to view the IP camera without logging in.
- ✓ **No:** Need user name & password to access this IP camera

- **Add user:** Enter the user name in “**Username**”, the password in “**Password**”, and re-enter the password in “**Confirm**”. Then, click “**Add/Set**”.
- **User List:** Click **edit** to change the account password. To delete the user account, click **Remove** button.



The image shows a dialog box titled "User Setup" with a dark gray background. It contains three input fields: "Username:" with the text "guest", "Password:", and "Confirm:". Below the input fields is an "OK" button.

[Note]

1. The password can't be empty, otherwise, user are not able to login successfully.
2. Please don't use special symbols as user name such as *, %, \$, &.

System > Network Setting > Setting

- **Device Name:** Used to name the IP camera to search more easily for a specific one among all connected IP cameras.

The screenshot shows the AVer IP camera web interface. The left sidebar has a 'Network Setting' menu item highlighted. The main content area is titled 'Setting' and contains a 'Network Type' section with three radio buttons: DHCP (selected), Static, and PPPoE. Below these are input fields for IP Address (10.100.91.52), Subnet Mask (255.255.255.0), Gateway (10.100.91.254), Primary DNS (10.100.1.5), and Secondary DNS (10.100.1.6). The PPPoE section includes fields for Username, Password, Confirm Password, and a checkbox for 'Send mail after dialed' (checked). The Subject field contains 'PPPoE From IP Camera'. An 'Apply' button is at the bottom right.

- **Network Type:** IP camera supports DHCP, static IP and PPPoE. After completed all settings, click **Apply** to save the configuration.
 - **DHCP:** Using DHCP, the IP camera will get all of the network parameters from the DHCP server automatically.
 - **Static:** Please enter the IP address, subnet mask, gateway, Primary DNS, and Secondary DNS.
 - **PPPoE:** Enter the **Username**, **Password** and re-enter the Password in **Confirm Password** for the ADSL connection. And then click **Apply** to save the configuration.

System > Network Setting > Sever

Used to send out the video via Email or FTP, or to save on NAS.

The screenshot shows the AVer network settings interface. On the left is a navigation menu with sections: Preview, System (General, User Management, Network Setting, Advance, Image, Video Stream, Audio, SD Card), Event, and Status Information. The main area has tabs for Setting, Server, DDNS, Other 1, Other 2, and IPv6. The 'Server' tab is active, showing three sections: Mail Setting, FTP Setting, and NAS Settings. The Mail Setting section includes fields for Login Method (Account), Bcc Mail, Sender Email Address, Recipient Email Address, Mail Server, Mail Server Port (25), Account Name, Password, and a Secure Connect option (TLS/SSL). The FTP Setting section includes fields for FTP Server, FTP Server Port (21), Account Name, Password, Path (/), Create the folder (Yes), and Mode (PORT). The NAS Settings section includes fields for Location, Workgroup, Create the folder (Yes), and Account Name/Password. An Apply button is at the bottom right. The bottom left of the interface shows system status: Login IP (10.100.91.32), Bandwidth (---- KB/s), FW Version (V1.0.16), and a Logout button.

■ Mail Setting: Used to send out the video via Email.

- Login Method:** Click drop-down list to select the method to login Email server – “Account” or “Anonymous”.
- Enter necessary information in “Bcc Mail”, “Sender Email Address”, “Recipient Email Address”, “Mail Server”, “Mail Server Port”, “Account Name”, and “Password” columns.
- Click “Apply” to save the configuration.

■ FTP Setting: Used to send out the video to FTP server.

- Enter necessary information in “FTP Server”, “Account Name”, “Password”, and “Path” columns.
- Port:** Select the FTP server port.
- If the user wants to create a new folder on the FTP server to save the video file, select “Yes” under the “Create the folder”.
- Mode:** Select the FTP transmission mode.
- Click “Apply” to save the configuration.

- **NAS Settings:** Used to send out the video to NAS server.
 - a. Enter necessary information in “**Location**”, “**Workgroup**”, “**Account Name**” and “**Password**” columns.
 - b. If the user wants to create a new folder on the NAS server to save the video file, select “**Yes**” under the “**Create the folder**”.
 - c. Click “**Apply**” to save the configuration.

System > Network Setting > DDNS

The IP camera supports DDNS (Dynamic DNS) service.

- a. Select “**Enabled DDNS**” to enable DDNS function.
- b. Enter the **Domain Name**, **Account Name**, and **Password** that the user has registered on the DDNS service provider in the appropriate columns.
- c. Enter the IP refreshing time period in the “**Schedule Update**” column.
- d. Click “**Apply**” to save the configuration.

[Note] If you set the schedule update to occur too frequently, the IP may be blocked. In general, performing schedule update once a day (1440 minutes) is recommended.

■ Status

- Common warning message:

Updating!

Failed(1), Please check your DNS setting.

Failed(2), Please check your internet connection.

Failed(3), Please check your internet connection.

Failed(6), receiving data failure

- Warning message from different service provider:

◇ **Server Provider : dyndns.org**

Failed(4), Please check the DynDNS.org.

Error : The system parameter given is not valid.

Error : No user agent was specified.

Error : The username and password pair do not match a real user.

Error : An option available only to credited users was specified.

Error : Not in the form hostname.domain.org or domain.com.

Error : The hostname specified does not exist.

Error : Not under the username specified.

Error : Too many or no hosts specified in an update.

Error : The hostname specified is blocked for update abuse.

Error : DNS error encountered.

Error : DNS Server Error Conditions.

◇ **Server Provider : ddns.camddns.com(TW)**

Failed(5), The name has already been registered.

◇ **Server provider : ddns.ipddn.com(HK)**

Failed(5), The name has already been registered

◇ **Server provider : www.3322.org.**

Failed(4), Please check the www.3322.org.

System > Network Setting > Other 1

The screenshot shows the AVer web interface for configuring network settings. The left sidebar contains a 'Preview' section with 'System' expanded, showing 'General', 'User Management', 'Network Setting' (highlighted), 'Advance', 'Image', 'Video Stream', 'Audio', and 'SD Card'. Below this is an 'Event' section with a '+' icon and a 'Status Information' section showing 'Login IP: 10.100.91.32', 'Bandwidth: ---- Kb/s', and 'FW Version: V1.0.16'. The main content area has tabs for 'Setting', 'Server', 'DDNS', 'Other 1', 'Other 2', and 'IPv6'. The 'Other 1' tab is selected, displaying the following settings:

- HTTP Port: 80
- HTTPS Port: 443
- UPnP Support: Yes No
- UPnP Port Forwarding: Yes No
- External HTTP Port: 80
- External HTTPS Port: 443
- External RTSP Port: 554
- RTSP Server: Yes No
- RTSP Authentication: Disable
- RTSP Port: 554
- RTP Start Port: 5000 [1024..9997]
- RTP End port: 9000 [1027..10000]
- ONVIF: Enabled Disabled
- Security: Yes No
- RTSP Keepalive: Yes No

An 'Apply' button is located at the bottom right of the settings area.

User may need to assign a different port to avoid conflict when setting up IP assignment. Click **Apply** to save the configuration.

- **HTTP Port:** setup web page connecting port and video transmitting port (Default: 80)
- **HTTPS Port:** AVer IP Camera supports encrypted browsing using HTTPS. This is configured on the System > Advance > HTTPS
- **UPnP Support:** This IP camera supports UPnP, if this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to “My Network Places.”

[Note] UPnP must be enabled on your PC.

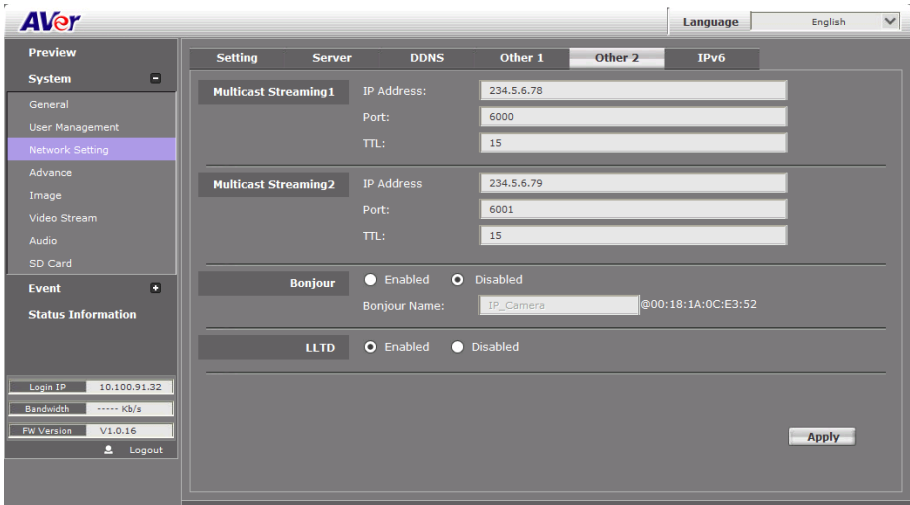
Please follow the procedure to activate UPnP.

1. Open the **Control Panel** from the Start Menu.
 2. Select **Add/Remove Programs**.
 3. Select Add/Remove Windows Components and open Networking Services section.
 4. Click **Details** and select **UPnP** to setup the service.
 5. The IP device icon will be added to “**My Network Places**”.
 6. User may double click the IP device icon to access IE browser.
- **UPnP Port Forwarding:** If the IP camera is set up behind the firewall, please select YES to enable it.
 - **RTSP Server:** Enable/disable RTSP function. The Real Time Streaming Protocol (RTSP) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers.
 - **RTSP Authentication:** While using iViewer software to get camera’s image, please choose “Basic” (base64) mode to enable security mechanism.

- **RTSP Port:** setup port for RTSP transmitting (Default: 554)
- **RTP Start and End Port:** in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.
- **Security: Yes** is required account and password to connect with this IP camera through ONVIF protocol. **No** is not required account and password to connect.
- **RTSP Keepalive:** To keep connection until remote site disconnects it.

System > Network Setting > Other 2

Multicast Setting (based on the RTSP Server): User can setup two streams based on the RTSP Server.



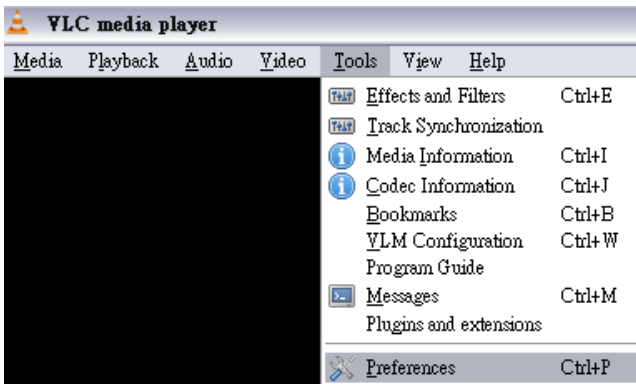
Multicast operation example:

The application is to get the multicast streaming in the LAN environment. Basically, the users operate VLC player, and then you can get the multicast streaming from IP camera.

Please follow the steps to obtain the multicast streaming in the following steps:

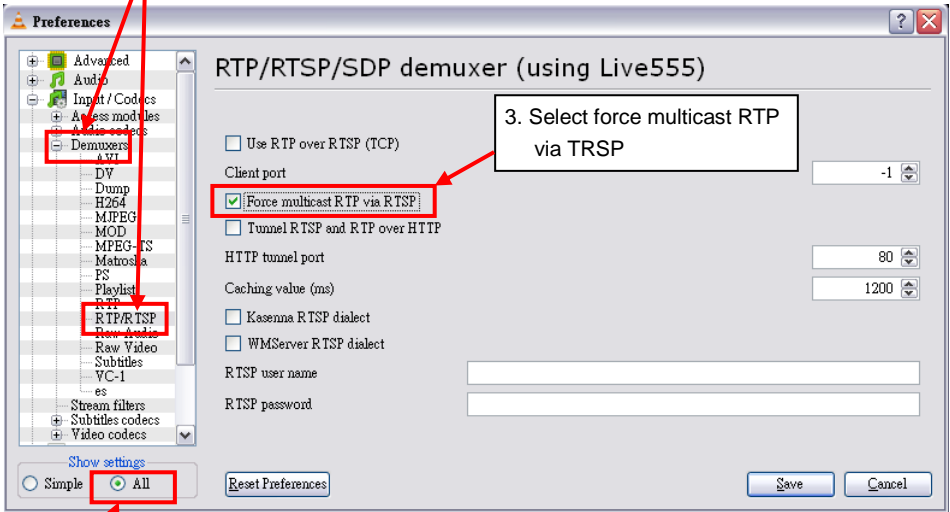
Step 1:

1. Implement VLC player (please download from the Internet)
2. Select /tools/preferences



Step 2:

2. Select Demuxers and RTP/RTSP

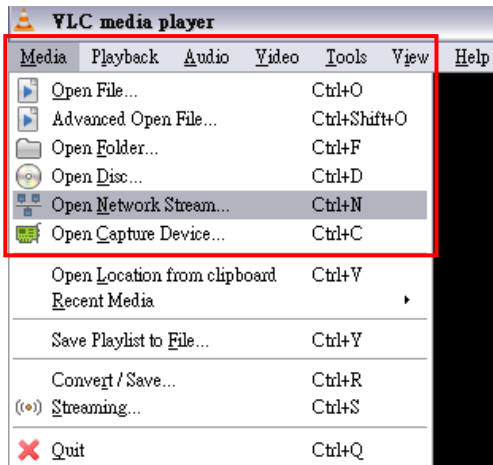


3. Select force multicast RTP via TRSP

1. Select all

Step 3:

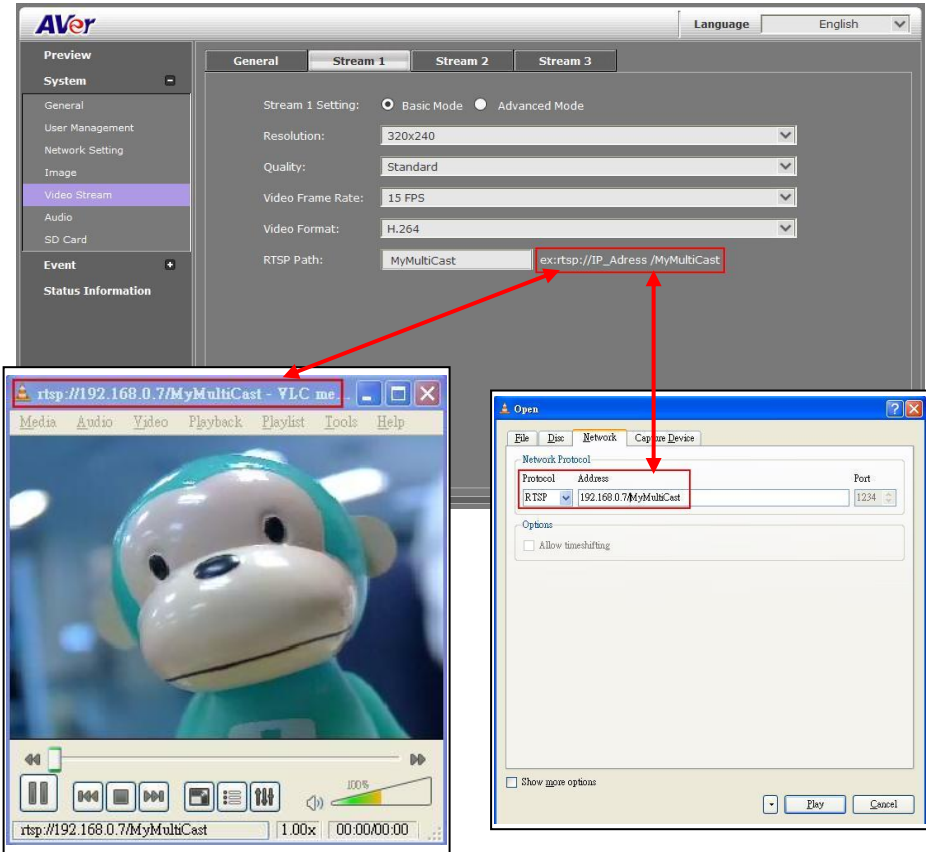
Select Media/open network stream



Step 4:

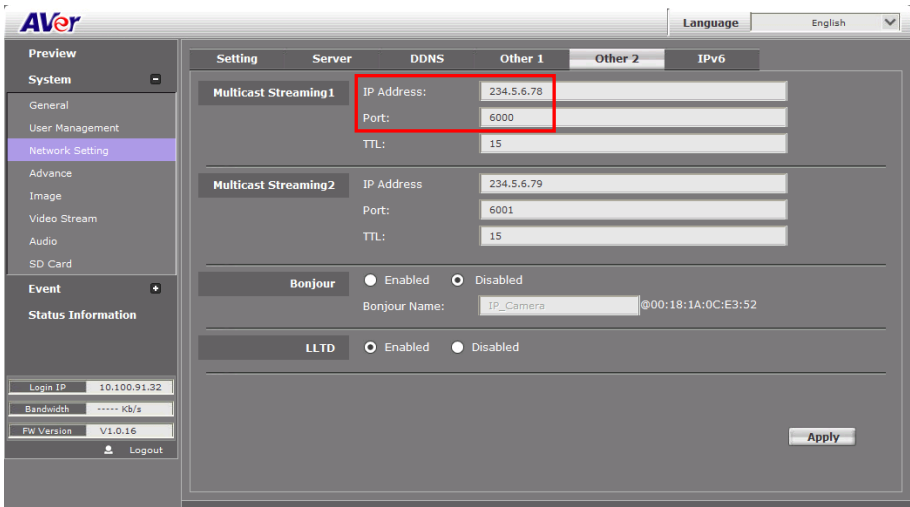
Input `rtsp://[IPCAM Address] / [RTSP Path]`

The URL address should be the same as the RTSP path in Video Stream (System-->Video Stream)

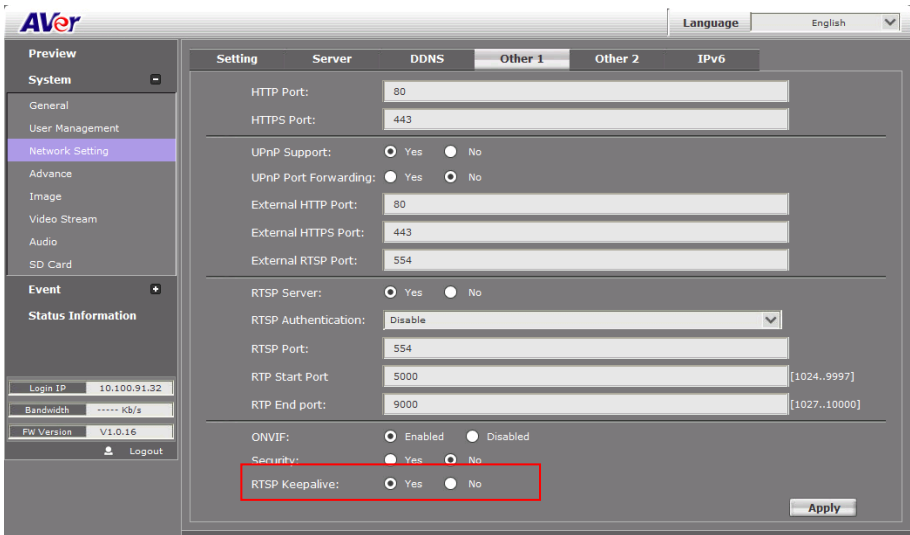


[Notice]

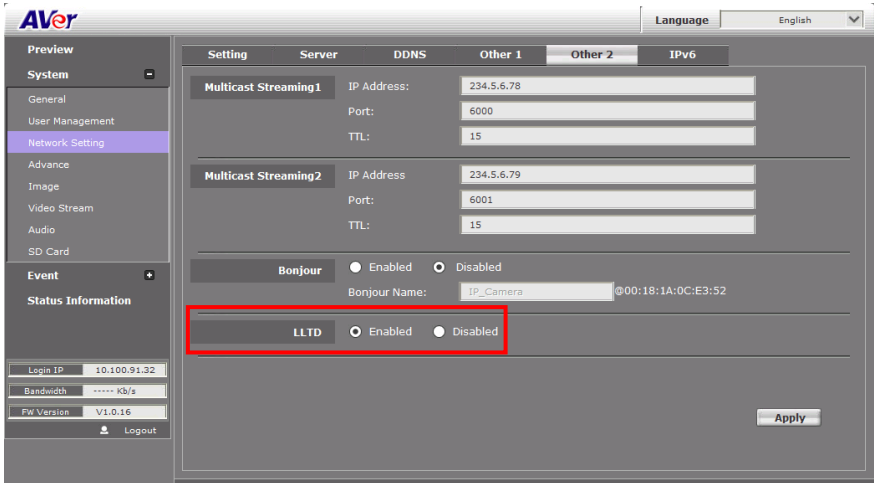
- a. If the received image is not from the required IP camera, please adjust the value. (Change either IP Address or Port number)



- b. If the Multicast stream you use doesn't support RTSP Keepalive, please select NO.

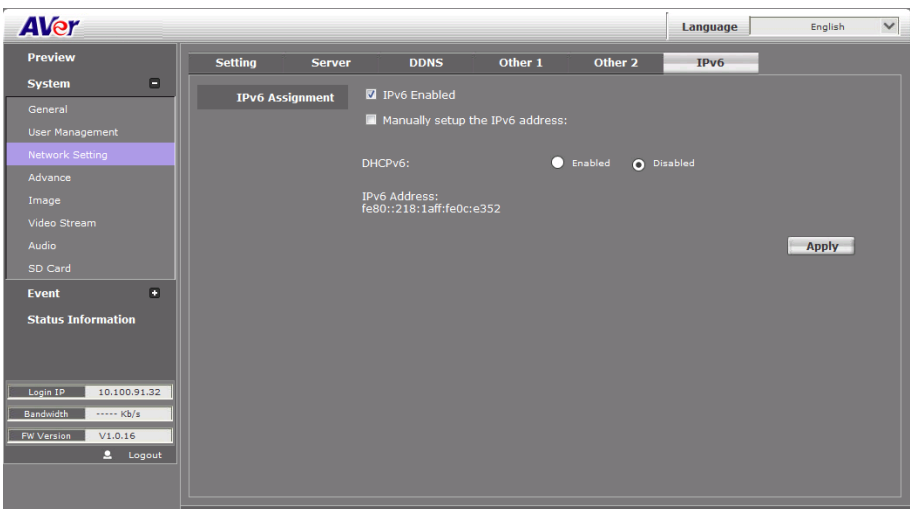


- **Bonjour:** This function enables MAC systems to link to this IP Camera. Please key in the name here.(Safari supports Bonjour protocol.)
- **LLTD:** If your PC supports LLTD, enable this function then you can check the connection status, properties, and device position (like IP address) of this IP Camera in the network map. On computer's running Windows Vista or Windows 7, you can find LLTD through the path **Start → Control Panel→ Network and internet→ Network and Sharing Center→ Click “ See full map”**.



System > Network Setting > IPv6

Besides IPv4, there is IPv6 for user to set up IP address.



System > Advance > HTTPS

The screenshot shows the AVer system configuration interface. The left sidebar contains a menu with options: Preview, System, General, User Management, Network Setting, Advance (highlighted), Image, Video Stream, Audio, SD Card, Event, and Status Information. The main area is titled 'HTTPS' and contains three sections: 'Created Request', 'Installed Certificate', and 'Connection Types'. The 'Created Request' section shows Subject: C=TW, ST=, L=, O=, OU=, CN= and Date: 2014/Jul/07 14:15:39, with 'Content' and 'Remove' buttons. The 'Installed Certificate' section shows Subject: C=TW, ST=, L=, O=, OU=, CN= and Date: Mar 14 08:45:42 2038 GMT, with 'Content' and 'Remove' buttons. The 'Connection Types' section has a dropdown menu currently set to 'HTTP & HTTPS'. At the bottom, there are status fields: Login IP (10.100.91.32), Bandwidth (---- Kb/s), and FW Version (V1.0.16), along with a Logout button.

HTTPS (Hypertext Transfer Protocol Secure): Https can help protect streaming data transmission over the internal on the higher security level. You can select the connection type. "Https" means the user cannot connect the camera via Http protocol. The HTTPS path will be: "https :/(IP address)". If you select "Http & Https", both the Http and HTTPS path can be used to access the camera

A close-up of the 'Connection Types' dropdown menu. The menu is open, showing four options: 'Http', 'Https', 'Https', and 'Http&Https'. The 'Https' option is currently selected and highlighted in blue.

Remove the existing setting: Before setting new request, please remove old secure identification. Select "Http" connection type and click "Remove".

This screenshot shows the same HTTPS configuration interface as above, but with the 'Remove' buttons for both the 'Created Request' and 'Installed Certificate' sections highlighted with red circles. The 'Created Request' section shows Subject: C=TW, ST=, L=, O=, OU=, CN= and Date: 2012/Jun/17 17:05:07. The 'Installed Certificate' section shows Subject: C=TW, ST=, L=, O=, OU=, CN= and Date: Mar 14 08:45:42 2038 GMT.

Created Request: Setting the secure identification and apply it.

Create Request	Country:	<input type="text"/>
	State or province:	<input type="text"/>
	Locality:	<input type="text"/>
	Organization:	<input type="text"/>
	Organizational Unit:	<input type="text"/>
	Common Name:	<input type="text"/>
		<input type="button" value="Apply"/>

There are two ways to set Certificate- Install Signed Certificate or Create Self-Signed Certificate.

Install Signed Certificate	Signed Certificate:	<input type="text"/>	<input type="button" value="Browse"/>
			<input type="button" value="Apply"/>
Create Self-Signed Certificate	Country:	<input type="text"/>	
	State or province:	<input type="text"/>	
	Locality:	<input type="text"/>	
	Organization:	<input type="text"/>	
	Organizational Unit:	<input type="text"/>	
	Common Name:	<input type="text"/>	
	Validity:	<input type="text"/>	Days
			<input type="button" value="Apply"/>

System > Advance > SNMP

SNMP (Simple Network Management Protocol) provides a simple framework for administering networked hardware. To manage the IP camera, you have to prepare a MIB browser or similar tools first. SNMPv1, SNMPv2c, and SNMPv3 can be enabled simultaneously.

The screenshot shows the Aver IP camera web interface. The left sidebar contains navigation options: Preview, System, General, User Management, Network Setting, Advance (selected), Image, Video Stream, Audio, SD Card, Event, and Status Information. The main content area is titled 'SNMP Setting' and has tabs for HTTPs, SNMP (selected), Access list, and QoS/DSCP. Under the 'SNMP Setting' tab, there are three sections:
1. **SNMPv1** and **SNMPv2c**: Both are checked. Fields include 'Write Community' (write) and 'Read Community' (public).
2. **SNMPv3**: Checked. Fields include 'Write Security Name' (write), 'Authentication Type' (MD5 selected), 'Authentication Password', 'Encryption Type' (DES selected), 'Encryption Password', 'Read Security Name' (public), 'Authentication Type' (MD5 selected), 'Authentication Password', 'Encryption Type' (DES selected), and 'Encryption Password'.
3. **SNMPv1/v2c Trap**: Checked. Fields include 'Trap Address', 'Trap Community' (public), and 'Trap Event' (Network Disconnected, V3 Authentication Failed, Cold Start, Setting Changed, SD Insert/Remove).
An 'Apply' button is located at the bottom right of the main content area. The bottom of the interface shows system information: Login IP (10.100.91.32), Bandwidth (---- Kb/s), FW Version (V1.0.16), and a Logout button.

- **SNMPv1 and SNMPv2:** The term "Community name" in SNMPv1 and SNMPv2c can be roughly regarded as key. The person who has the community name has the authority to read or edit the information of IP camera via SNMP. Check the box to enable SNMPv1 or SNMPv2c protocol, and specify the community name for write (read and write) and read (read-only). The user who uses read community name to access the IP camera cannot modify any data of this camera.

This is a close-up view of the 'SNMP Setting' section. It shows the 'SNMPv1' and 'SNMPv2c' checkboxes selected. Below them are two text input fields: 'Write Community' with the value 'write' and 'Read Community' with the value 'public'.

- SNMPv3:** For data security reasons, the authentication and encryption assurances are added when developing SNMPv3. The user has to give not only the security name (the same as "community name" in v1&v2c, or sometimes we call it "context name") but the password in order to access the IP camera. Please set security name, authentication type, authentication password, encryption type, encryption password of write and read respectively. The password must be 8–64 bits in length. Different from in SNMPv1 and v2c, the user have to create an account when using SNMPv3. In the account parameters, key in the security name and password you set in the camera to get accessing.

- SNMPv1/v2cTrap:** Trap is a mechanism that allows the managed device to send messages to the manager instead of waiting passively for polling from the manager. Specify the trap event. When those events happen, the camera will send the ring message to the Trap Address, which is usually the manager's IP address. Trap Community means the community that can receive the trap message.
 - **Cold Start:** The camera starts up or reboots.
 - **Setting changed:** The SNMP setting is changed.
 - **Network Disconnected:** The network connection was broken down. (The camera will send trap messages after the network being connected again)
- V3 Authentication Failed:** A SNMPv3 user account tries to get authentication but failed. (Due to incorrect password or community)
- SD Insert / Remove:** A microSD/SDHC card is inserted or removed.

System > Advance > Access list

You can deny an IP address or a range of IP addresses so that they cannot access the IP camera. Tick the "enable" box, key in the IP address you want to deny, select "deny" then click "Add" to add it to the list. You can also choose to deny a range of IP address but allow one or several IP addresses of them. Take the picture above for example, IP address 192.168.50.151~161 is not allowed to connect to the camera, but only 192.168.50.159 can access. Note: In the list "allow" condition must be ranked before "deny" condition. For example, if we exchange the sequence, set "Deny: 192.168.50.151 ~ 192.168.50.161" for the first item and "Allow: 192.168.50.159" for the second item in the list, the IP "192.168.50.159" turns out to be denied by the camera because the "deny" condition has the priority according to our ranking way.

Language English

HTTPs SNMP **Access list** QoS/DSCP

Enable ip address filter

IPv4 Setting allow deny

address: single

No.	IP Address	Filter	Action
1			<input type="button" value="remove"/>
2			<input type="button" value="remove"/>
3			<input type="button" value="remove"/>
4			<input type="button" value="remove"/>
5			<input type="button" value="remove"/>
6			<input type="button" value="remove"/>
7			<input type="button" value="remove"/>
8			<input type="button" value="remove"/>
9			<input type="button" value="remove"/>
10			<input type="button" value="remove"/>

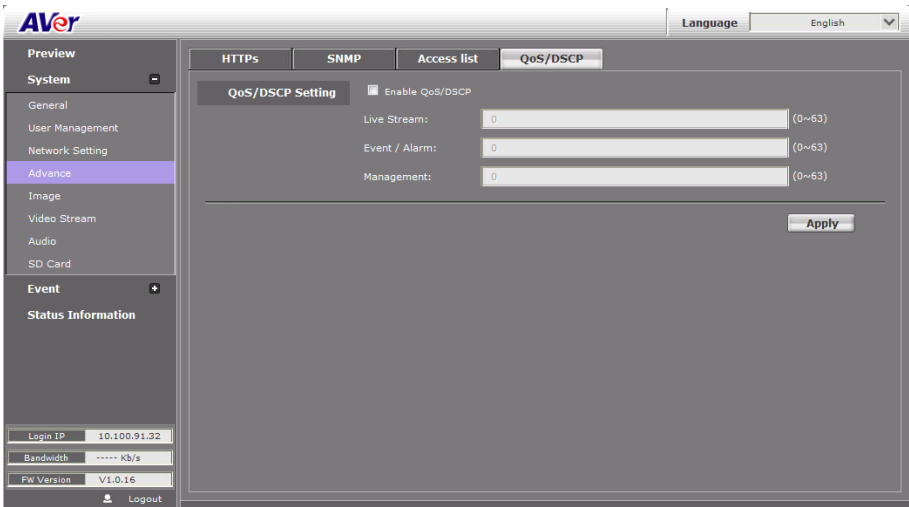
Allow admin IP address: always access this device

Admin IP Address:

Login IP 10.100.91.32
Bandwidth ---- Kb/s
FW Version V1.0.16
Logout

System > Advance > QoS/DSCP

QoS/DSCP (Quality of Server/Differentiated Services Code-point) specifies a simple mechanism for classifying and managing network traffic and provides QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purposes. The number 0–63 for Live Stream, Event / Alarm, and Management represent the ratio that the bandwidth is divided. For example, if you set 5, 10, and 20 for the three items, then the bandwidth of the three items are 5:10:20. There is no difference between setting "0, 0, 0" or "63, 63, 63" because under these two settings the three items will get equal bandwidth (1/3).



The screenshot displays the AVer network management interface. The top navigation bar includes the AVer logo, a language dropdown menu set to "English", and tabs for "HTTPs", "SNMP", "Access list", and "QoS/DSCP". The "QoS/DSCP" tab is active, showing the "QoS/DSCP Setting" section. A checkbox labeled "Enable QoS/DSCP" is present. Below it are three input fields: "Live Stream:" with a value of 0, "Event / Alarm:" with a value of 0, and "Management:" with a value of 0. Each field has a range indicator "(0~63)" to its right. An "Apply" button is located at the bottom right of the configuration area. On the left side, a sidebar menu lists various system settings: "General", "User Management", "Network Setting", "Advance" (highlighted), "Image", "Video Stream", "Audio", "SD Card", "Event", and "Status Information". At the bottom left, a status bar shows "Login IP: 10.100.91.32", "Bandwidth: ---- kb/s", and "FW Version: V1.0.16", along with a "Logout" button.

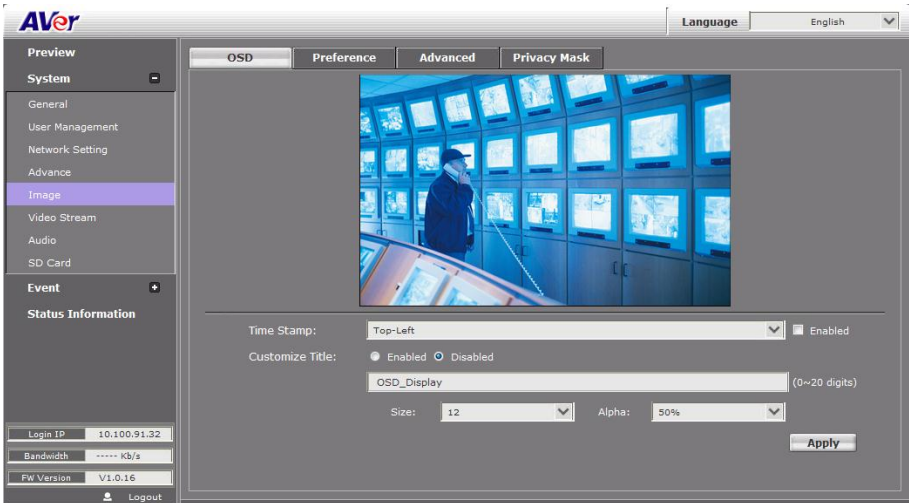
System > Image

Admin and operator levels can adjust the Image setting. There are 4 tabs: OSD, Preference, Advanced, and Privacy Mask

System > Image> OSD

In the OSD tab, you can enable/disable overlaying time stamp and text title. After completing the setting, click Save to apply the new setting and Cancel to keep the new setting. **Please note it can't use Chinese words.**

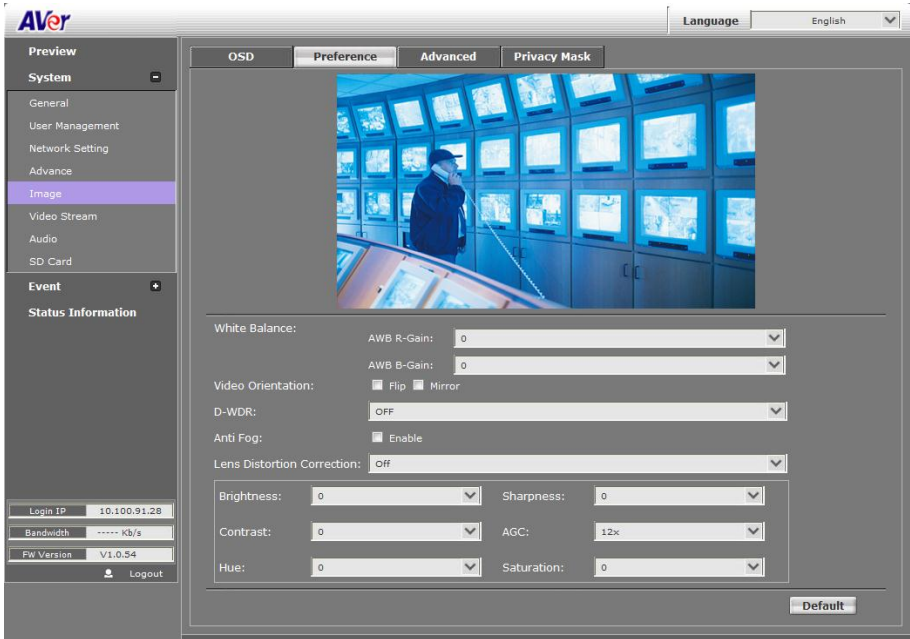
- **Time Stamp:** Mark **Enable** check box and select a position where date and time stamp / text to display on video screen.
- **Customize Title:** Click **Enabled** can adjust the OSD contents which are including **Size** and **Alpha** of text, the special characters(ex: &, %, #) are not allowed.



The screenshot displays the AVer system web interface. The top navigation bar includes the AVer logo, a language dropdown menu set to English, and four tabs: OSD (selected), Preference, Advanced, and Privacy Mask. The left sidebar contains a menu with categories: Preview, System (expanded), General, User Management, Network Setting, Advance, Image (highlighted), Video Stream, Audio, SD Card, Event, and Status Information. The main content area shows the OSD configuration settings. A preview window displays a person in a control room with multiple monitors. Below the preview, the 'Time Stamp' dropdown is set to 'Top-Left' with an 'Enabled' checkbox. The 'Customize Title' section has 'Enabled' selected. The 'OSD_Display' text input field contains 'OSD_Display' (with a note '(0~20 digits)'). The 'Size' dropdown is set to '12' and the 'Alpha' dropdown is set to '50%'. An 'Apply' button is located at the bottom right. The bottom status bar shows 'Login IP: 10.100.91.32', 'Bandwidth: ---- kb/s', 'FW Version: V1.0.16', and a 'Logout' button.

System > Image > Preference

In the Preference tab, you can tune the IP camera's white balance, change the video orientation, and adjust the brightness and contrast.



- **White Balance:** Adjust white balance value.
- **Video Orientation:** To **Flip** or **Mirror** the video on screen.
- **D-WDR:** This function is able to reduce the contrast in the view to avoid the dark zones resulting from over and under exposure.
- **Anti Fog:** Improve the image clarity on environments presenting high levels of fog or smoke.
- Adjust **“Brightness”**, **“Contrast”**, **“Hue”**, **“Saturation”**, **“AGC”**, **“Saturation”** to get clear video.
- **Default:** Click it to reset to factory default values.

System > Image> Advanced

Click **Default** button will back to factory default settings.

The screenshot displays the Aver camera's web interface. On the left is a sidebar with a 'System' menu and sub-items: General, User Management, Network Setting, Advance, Image (highlighted), Video Stream, Audio, SD Card, Event, and Status Information. Below the sidebar are fields for Login IP (10.100.200.43), Bandwidth (**** Kb/s), FW Version (V1.0.38), and a Logout button. The main panel has tabs for OSD, Preference, Advanced (selected), and Privacy Mask. It features a live video feed of a person in a control room. Below the feed are the following settings: Sense-Up (dropdown: 1/15), Shutter Time (dropdown: Outdoor), IR Cut Filter (radio buttons: Color Mode, Light Sensor Mode, B/W Mode, Schedule Mode, DI Trigger Mode; Schedule Mode includes 'Night from 17:00 to 05:00 (HH:MM)' and a Save button), IR LED (dropdown: On), Day Lux (dropdown: 7 lux), Night Lux (dropdown: 3 lux), Current Lux (text: over 55 lux, Refresh button), and Denoise (3D: dropdown: 3, 2D: dropdown: 1). A Default button is at the bottom right.

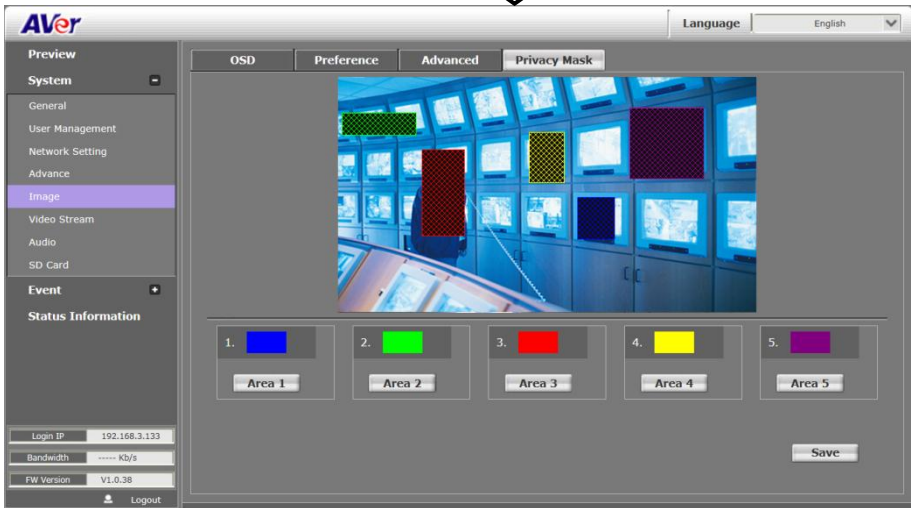
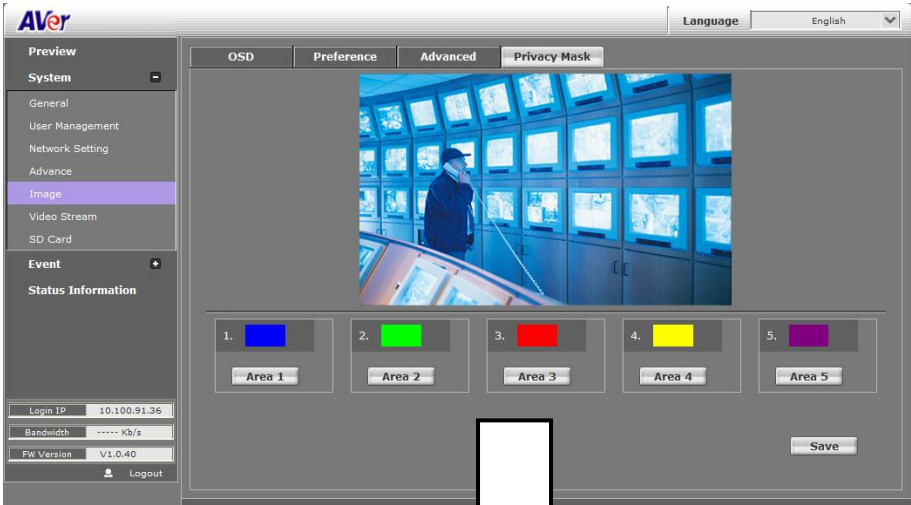
- **Sense-UP:** The main purpose of sense-up is to provide a camera technology that does not rely on artificial light to see in very low light conditions. By allowing the shutter to stay open longer, allowing more light into the camera and seeing better in low light. This setting altogether when there is a moving object in the image and the faster the object moves, the worse the image appears (blurriness).
- **Shutter Time:** Adjust the shutter time level to get the best image quality.
- **IR Cut Filter:** Select the IR cut filter mode – Color Mode, Light Sensor Mode, B/W Mode, Schedule Mode, or DI Trigger Mode. When you choose "Light Sensor Mode", the image will be turned to black and white at night in order to keep clear. Current lux value is provided for reference. Under "Times Mode" the switch time of Color / Black and white is according to the given time. You can also control it by choosing "Color" or "B/W".
- **IR LED:** select off to turn off IR LED.
- **Day Lux/ Night Lux:** To set light sensor mode, appoint a lux standard of switching D/N here.
- **Denoise:** This function is able to filter the noise and blur from the image and show a clearer view.

[Note] When you select a number in "Shutter Time", actually the shutter time varies in a range and controlled by camera automatically. Following table shows the shutter time option and corresponding range

Option	Shutter Time Range (sec.)
Outdoor	Selected number in "Sense-up"
1/10	1/24000 ~ 1/10
1/15	1/24000 ~ 1/15
1/30	1/24000 ~ 1/30
Indoor	Selected number in "Sense-up"
1/30	1/24000 ~ 1/30
1/50	1/24000 ~ 1/50
1/60	1/24000 ~ 1/60
1/100	1/24000 ~ 1/100
1/125	1/24000~ 1/125
1/250	1/24000 ~ 1/250
1/500	1/24000 ~ 1/500
1/1000	1/24000 ~ 1/1000

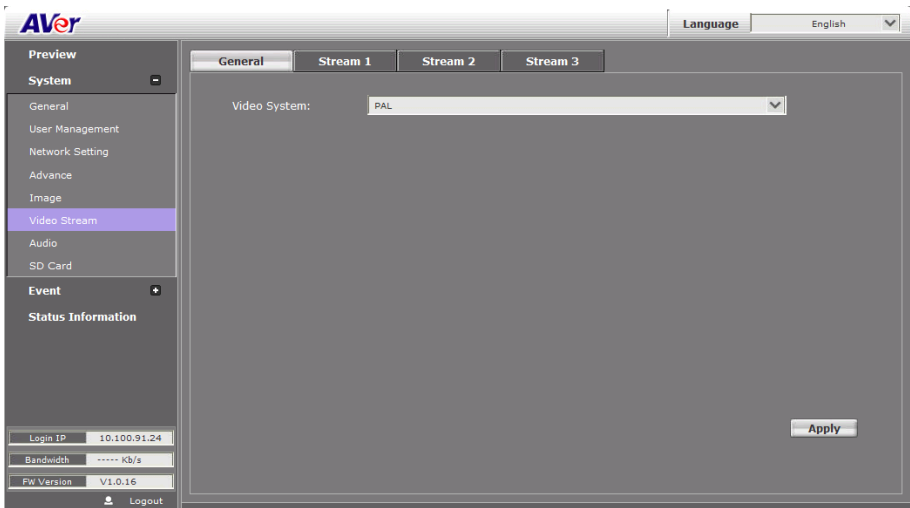
■ System > Image > Privacy Mask

For the security purpose, there are three areas can be setup for privacy mask. Click Area # (Area 1, Area 2, Area 3, Area 4, Area 5) button first and drag an area on the image screen. Then, click **Save** to save the setting.



System > Video Stream > General

- **Video System:** PAL or NTSC.

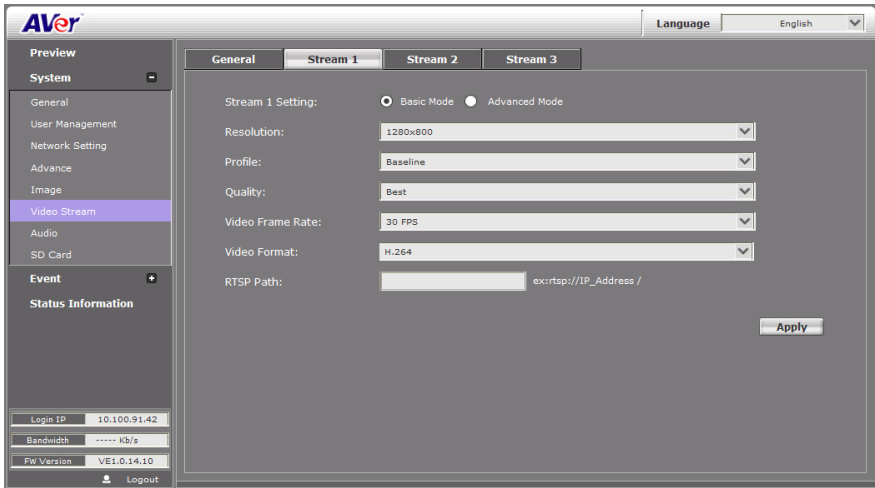


System > Video Stream > Stream1

■ Basic Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 6 resolutions that can be chosen –1280x800, 1280x720, 800x600, 640x480, 320x240, 176x144.
- **Profile:** Chose between Main and Baseline.
- **Quality:** There are 5 levels to adjust – Best, High, Standard, Medium, and Low. The higher the quality is, the bigger the file size is. Also not good for transmitting over the Internet.
- **Video Frame Rate:** The video refreshing rate per second.
- **Video Format:** H.264 or JPEG.
- **RTSP Path:** It's a URL address.

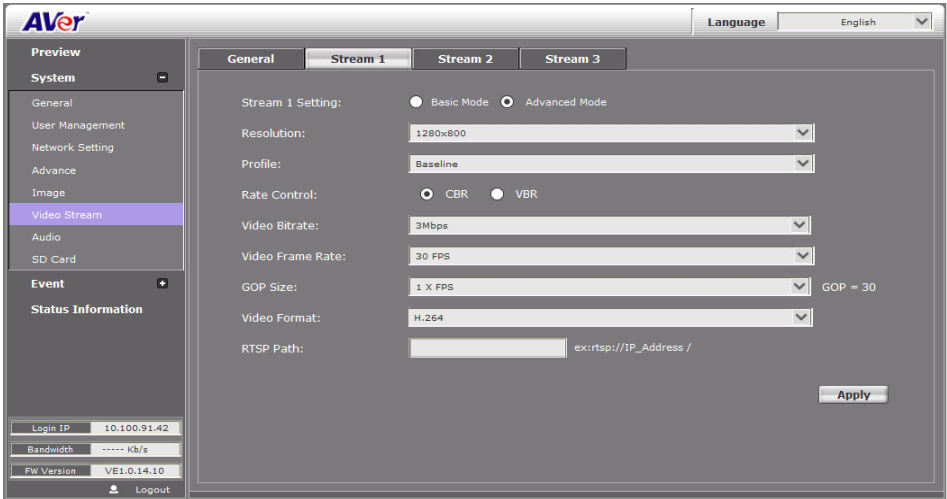


■ Advanced Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 6 resolutions that can be chosen –1280x800, 1280x720, 800x600, 640x480, 320x240, 176x144.
- **Profile:** Chose between Main and Baseline.
- **Rate Control:** There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use.
 - ✓ **CBR:** 32Kbps~8Mbps (the higher the CBR is, the better the video quality is).
 - ✓ **VBR:** 1(Low) ~10(High) – Compression rate, the higher the compression rate, the better the picture quality is. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.

- **Video Quantitative:** 1(Low) ~10(High).When you select VBR setting, you can adjust the value.
- **Video Frame Rate:** The video refreshing rate per second.
- **GOP Size:** It means "**Group of Pictures**".
- **Video Format:** H.264 or JPEG
- **RTSP Path:** It's a URL address



System > Video Stream > Stream2

■ Basic Mode

Click **Apply** to save the configuration.

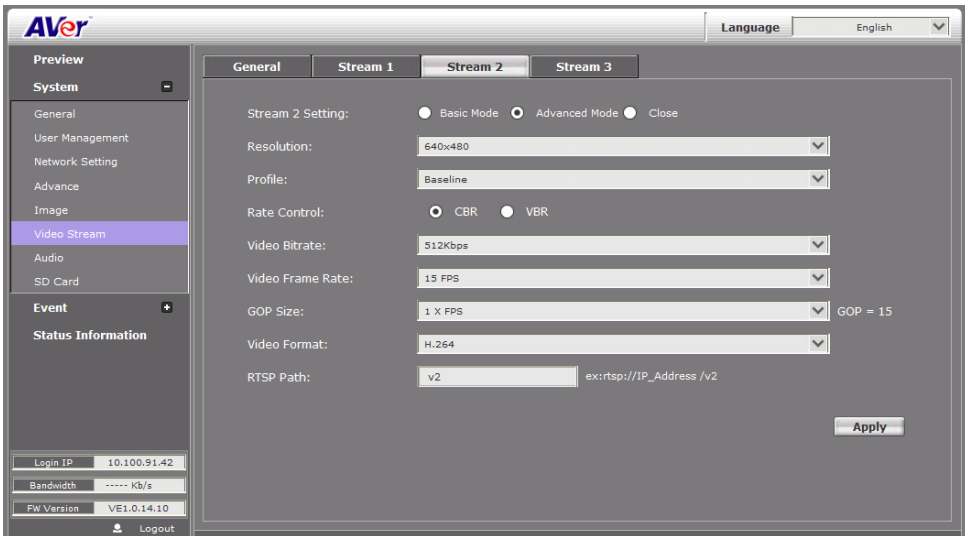
- **Resolution:** There are 6 resolutions that can be chosen –1280x800, 1280x720, 800x600, 640x480, 320x240, 176x144.
- **Profile:** Chose between Main and Baseline.
- **Quality:** There are 5 levels to adjust – Best, High, Standard, Medium, and Low. The higher the quality is, the bigger the file size is. Also not good for transmitting over the Internet
- **Video Frame Rate:** The video refreshing rate per second.
- **Video Format:** H.264 or JPEG
- **RTSP Path:** It's a URL address

The screenshot shows the AVer system configuration interface. The top navigation bar includes the AVer logo and a language dropdown menu set to English. The left sidebar contains a 'System' menu with options: General, User Management, Network Setting, Advance, Image, Video Stream (highlighted), Audio, SD Card, Event, and Status Information. The main content area has tabs for 'General', 'Stream 1', 'Stream 2', and 'Stream 3'. Under the 'Stream 2' tab, the 'Stream 2 Setting' section has three radio buttons: 'Basic Mode' (selected), 'Advanced Mode', and 'Close'. Below this are several configuration fields: 'Resolution' (640x480), 'Profile' (Baseline), 'Quality' (Medium), 'Video Frame Rate' (15 FPS), and 'Video Format' (H.264). The 'RTSP Path' field contains 'v2' and a placeholder 'ex:rtsp://IP_Address /v2'. An 'Apply' button is located at the bottom right of the configuration area. At the bottom of the sidebar, there is a 'Logout' button and status information including 'Login IP: 10.100.91.42', 'Bandwidth: ***** Kb/s', and 'FW Version: VE1.0.14.10'.

■ Advanced Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 6 resolutions that can be chosen – 1280x800, 1280x720, 800x600, 640x480, 320x240, 176x144.
- **Profile:** Chose between Main and Baseline.
- **Quality:** There are 5 levels to adjust – Best, High, Standard, Medium, and Low. The higher the quality is, the bigger the file size is. Also not good for transmitting over the Internet
- **Rate Control:** There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use.
 - ✓ **CBR:** 32Kbps~8Mbps (the higher the CBR is, the better the video quality is).
 - ✓ **VBR:** 1(Low) ~10(High) – Compression rate, the higher the compression rate, the better the picture quality is. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.
- **Video Quantitative:** 1(Low) ~10(High).When you select VBR setting, you can adjust the value.
- **Video Frame Rate:** The video refreshing rate per second.
- **GOP Size:** It means "**Group of Pictures**".
- **Video Format:** H.264 or JPEG.
- **RTSP Path:** It's a URL address

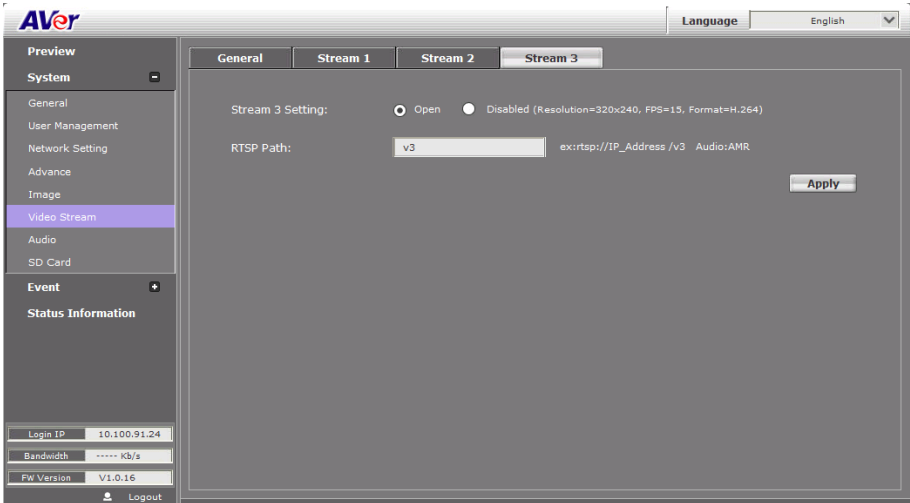


- **Close:** To close stream 2. Click **Apply** to save the configuration.

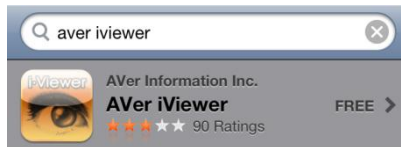
System > Video Stream > Stream3

3GPP Streaming is designed for mobile viewing.

- **Stream 3 Setting:** Enable or Disable 3GPP Streaming.
- **RTSP Path:** It's a URL address.

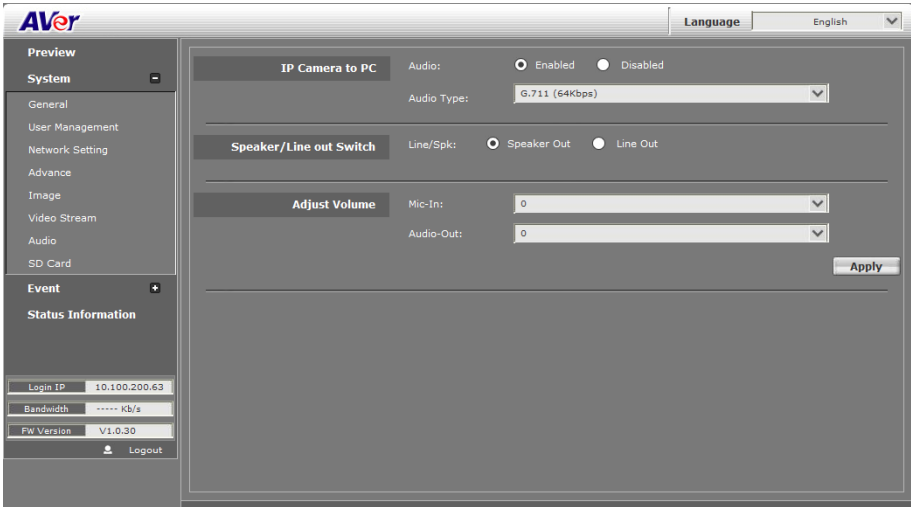




[Note] To get the best mobile viewing quality, please download AVeriViewer (AndroidViewer) from the Apple App store or Google Play. iViewer takes video from Stream 1 or Stream 2, not from 3GPP streaming.



System > Audio

IP camera supports 2-way audio (mono). User can send audio from IP camera while connected to a microphone to remote site; User can also send audio from remote site to IP camera's external speaker.



- IP camera to PC: select “**Enable**” to start this function.
- There are three audio codes: G.711 (64Kbps), G.726(24Kbps), G.726 (32Kbps)
- Speaker Out:** The audio sound will come out from IP camera.
- Line Out:** The audio sound will come out from the audio device that you have connected on IP camera. If the audio device is not connected, the audio sound still will come out from IP camera.
- In live video screen, click  button to start chatting. Press again to mute. Click  button to turn on or off the speaker of PC.



System > SD Card

The screenshot displays the AVer system web interface. The top left corner features the AVer logo. A navigation menu on the left includes: Preview, System (selected), General, User Management, Network Setting, Advance, Image, Video Stream, Audio, SD Card (highlighted), Event, and Status Information. The main content area is titled 'SD Card' and contains the following sections:

- SD Card documents:** A text box displaying 'No SD card'.
- SD Card Control:** A dropdown menu for 'Auto Deletion' set to 'Off', with a subtext '(Keep 1/ 2/ 3/ 4...days)'.
- Format:** A section with a 'Format' button and a warning message: 'WARNING!!! All File will be deleted! NOTE: It only support FAT32 format for SD card over 64G Please format SD card into FAT32 before installation'. Below this is an 'Apply' button.

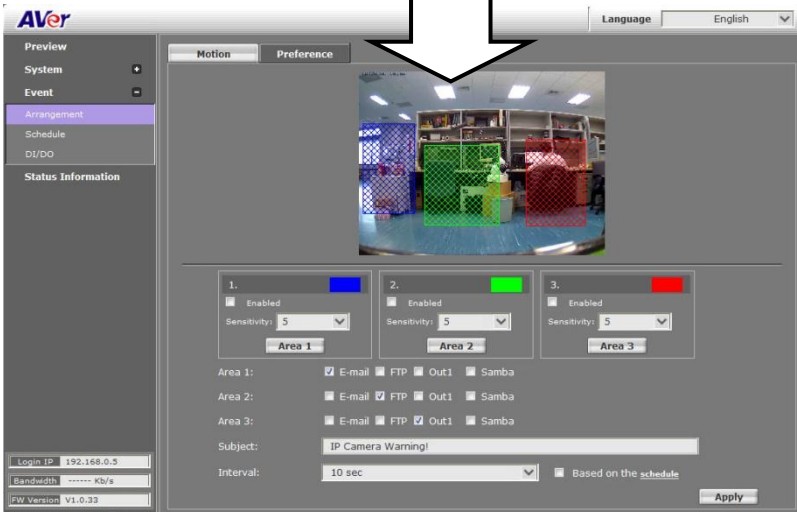
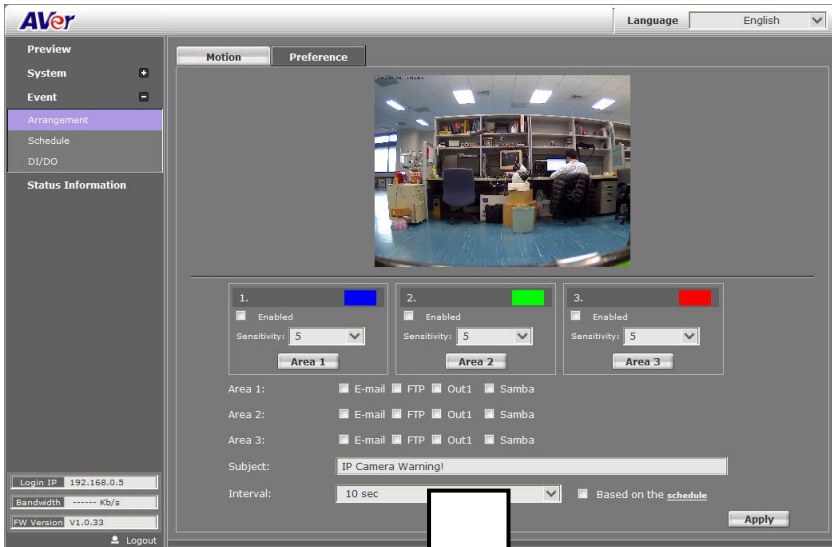
At the bottom left, there is a status bar with the following information:

- Login IP: 10.100.91.24
- Bandwidth: ----- Kb/s
- FW Version: V1.0.16
- Logout button

Please insert microSD/SDHC card before use. Make sure to push microSD/SDHC card into the slot completely.

Event > Arrangement > Motion

Motion Detection: IP camera allows 3 areas of motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD/SDHC card. To set up the motion area 1, click “**Area 1**” button. Using mouse to drag and draw the area. The same operation for area 2 and 3. (The higher the sensitivity value is, the more sensitive to trigger event.)



Event > Arrangement > Preference

The screenshot displays the 'Preference' page in the AVer camera web interface. The left sidebar contains navigation options: Preview, System, Event, Arrangement (selected), Schedule, DI/DO, and Status Information. The main content area is titled 'Preference' and includes a video preview window at the top showing a person in a control room. Below the preview are several configuration sections:

- Record File:** File Format (AVI File(with Record Time Setting)), Pre Alarm (5 sec), Post Alarm (5 sec).
- Network Connected:** Dis-connected (Save to SD card).
- Network IP Check:** IP Check (Enabled), IP Address (www.google.com), Interval (30 sec), Check failed (Save to SD card).
- Tampering Detection:** Tampering (Enabled), Interval (10 sec), Save to SD card, Samba, Audio.
- PIR Setting:** Enable (checked), Wave File (Police Pass), Interval (30 sec), Upload Wave File (Test), Record Wave File (Record).

Record File:

- **File Format:** IP camera allows 3 different types of recording file to change its recording size. When motion/alarm is triggered, there are 3 different types of record mode.
 - AVI File (With Record File Setting)
 - JPEG Files (With Record File Setting), only with MJPEG compression format.
 - Single JPEG (Single File with Interval Setting) (JPEG photo).
- **Pre Alarm and Post Alarm:** Setups for video start and end time when motion detected, I/O, or other devices got triggered.

[Note] Pre/Post Alarm record time is based on record time setting and IP camera built-in Ram memory. Limited by IP camera built-in Ram Memory. When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

- **Network Connected:** When the network is down, it will save the video to local SD/SDHC card.
[Note]This function is only enabled in wire connection.

- Network IP check:** When the connection is down, it records the **video** to SD/SDHC card. Make sure the video recording is continuous. To use this function, key in the IP address of the PC which has recording software installed. Enable the function of “**Save to SD card**”, then click “**Apply**”.
- Tampering Detection:** When the camera view is covered, moved, hit by strong light, or out of focus, the tampering detection will be triggered, and send snapshot or video to mail/FTP/Samba/SD card, or trigger the external alarm.
 For example:

Before Tampering Detection



Tampering Triggered (Defocused)



Before Tampering Detection



Tampering Triggered (Lens Covered)



Before Tampering Detection



Tampering Triggered (Glare)

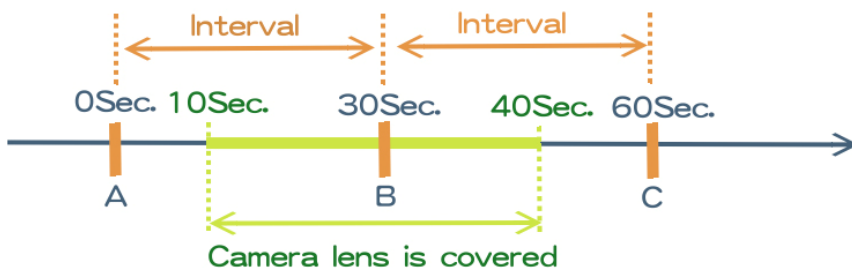


Before Tampering Detection

Tampering Triggered (Camera Moved)



➤ **Interval:** The tampering detecting interval. Take the diagram below as example. The interval is set for 30 second; the camera lens is covered during 10 - 40 sec. At time point B, the camera compares the view with time point A, and sends an alarm when it finds that the lens is covered. At time point C, the camera compares the view with time point B, and sends an alarm when it finds that the lens is uncovered.



■ **PIR setting:**

Enable PIR function, the camera will be triggered when it detect PEOPLE in its detection range (within 5 Meter), and then send video or snapshot to specific mail addresses, trigger the output device, play sound, or save video to FTP/ Micro SD card/ Samba.

- Wave File: Select the audio file from drop-down list -- Police Pass, Car Alarm, Dog Barking, Firetruck Siren, and Record Wave File. Click Test button to play a selected audio file for testing.
- Interval: Select the interval time period (10 ~ 60 seconds). If you select "10 sec" here, once a person is detected and action is triggered, it cannot be triggered again within 10 seconds.

[Note] The interval of two video files on SD/SDHC card is fixed with 30 seconds.

- Upload Wave File: Connect to PC to download the recorded audio file.
- Record Wave File: Record a audio file by your own.

Event > Schedule

- **Schedule:** After complete the schedule setup, the camera data will be recorded according to the schedule setup.
- **Snapshot:** After enable the snapshot function; user can select the storage position of snapshot file, the **Interval time** of snapshot and the reserved **File Name** of snapshot.

The screenshot displays the AVer camera management web interface. On the left is a navigation sidebar with sections: Preview, System (with a plus icon), Event (with a minus icon), Arrangement, Schedule (highlighted in purple), DI/DO, and Status Information. The main content area is divided into two sections: 'Schedule Setup' and 'Snapshot'.

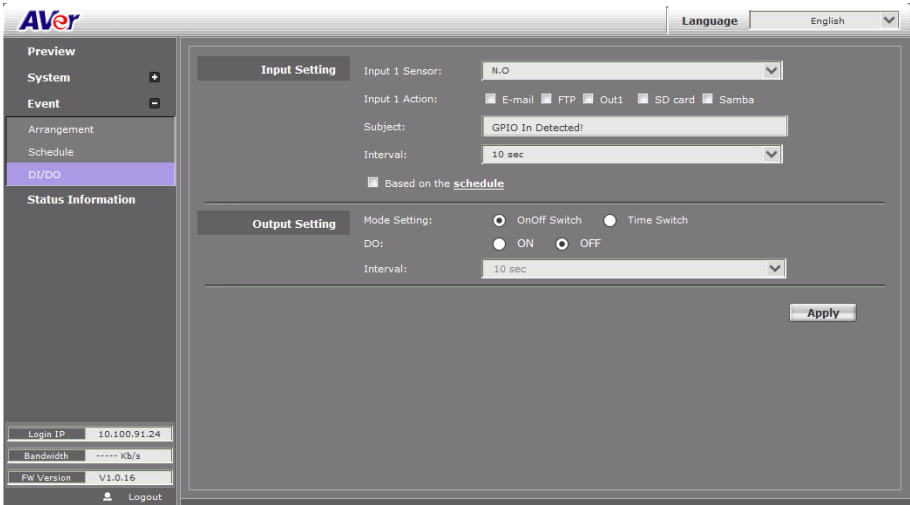
Schedule Setup: A calendar grid showing days of the week (All, Mon., Tue., Wed., Thu., Fri., Sat., Sun.) and hours (0-23). The grid is currently empty.

Snapshot: This section includes a radio button to toggle the snapshot function between 'Enabled' (selected) and 'Disabled'. Below this are four checkboxes for storage locations: E-mail, FTP, Save to SD card, and Samba. The 'Interval' is set to 10 seconds, with a range of [1..50000]. The 'File Name' is set to 'Snapshot'. An 'Apply' button is located at the bottom right of this section.

At the bottom left of the sidebar, there are status indicators: Login IP (10.100.200.54), Bandwidth (**** Kb/s), and FW Version (V1.0.62), along with a Logout button.

Event > DI/DO

IP camera supports 1 input/1 output (depending on different models). When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD/SDHC card.



CAUTION!!

Please connect to propriety relay box to reduce the risk of electric shock & damage.

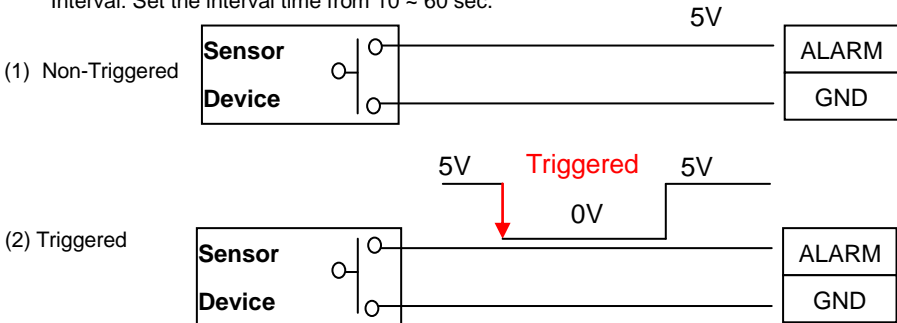
Input Setting:

Input 1 sensor: This is to set the relay status while the sensor is not yet triggered.

Input 1 action: Send the triggered video clips or photos to the selected method.

Subject: This is the subject while sending files via e-mail.

Interval: Set the interval time from 10 ~ 60 sec.



Output Setting:

Mode setting:

OnOff Switch: Relay status is based on sensor triggered times.

Time Switch: To restore the original relay status after the interval time.

[Note]GPIO pin define please refer to the part of Front / Back plane & I/O port pin assignment.

Ground (G)	ALARM INPUT:
DI	Normal: 5V (The voltage differential from ALM_IN pin & Ground) Active: 0V (Short the pin of ALM_IN and Ground pin)
DO	RELAY OUTPUT:
Ground(G)	MAX: 50 mA, DV 5V

Status Information

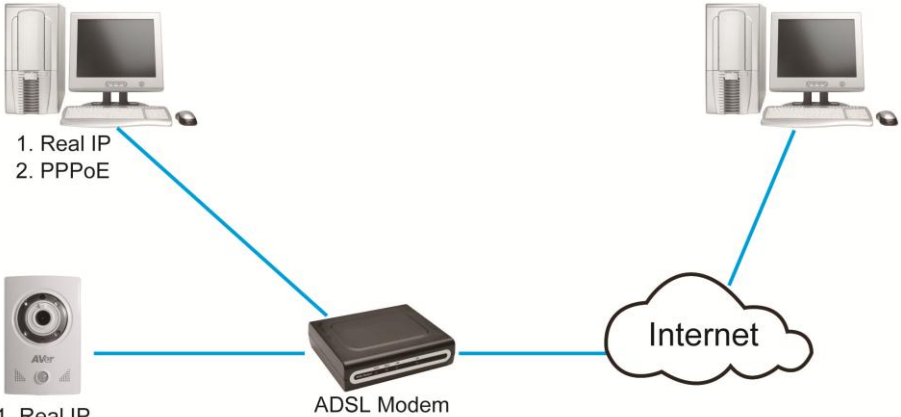
Click **Apply** button to save the configuration.

The screenshot displays the AVer web interface for an IP camera. The interface is in English. On the left, there is a navigation menu with options: Preview, System, Event, and Status Information. The main content area is divided into two sections: Networking info and Product info. The Networking info section includes fields for IP Address (10.100.91.52), MAC Address (00:18:1A:0C:E3:52), Interface (Ethernet), RTSP 1 Path (RTSP://10.100.91.52/), RTSP 2 Path (-----), and 3GPP Path (-----). The Product info section includes a Server Name field (IP Camera), an LED Indicator toggle (ON/OFF), Company (AVer), Model (FC1020-P), FW Version (V1.0.16), and BuildTime (2014/06/19 17:11:48 CST). There is a Status Bar checkbox and an Apply button at the bottom right. A bottom status bar shows Login IP (10.100.91.24), Bandwidth (---- Kb/s), FW Version (V1.0.16), and a Logout button.

- **Networking Info:** Displays network information of the IP camera.
- **Product Info**
 - **Server Name:** Assigns a name to the IP camera and the name shows on the IP Installer. Also, displays the related information of the IP camera. Mark **Status Bar** to display the Server Name of IP camera on preview interface.
 - **LED indicator:** To disable or enable the LED indicator on the IP camera.

Network Configuration

■ Configuration 1



1. Real IP
2. PPPoE

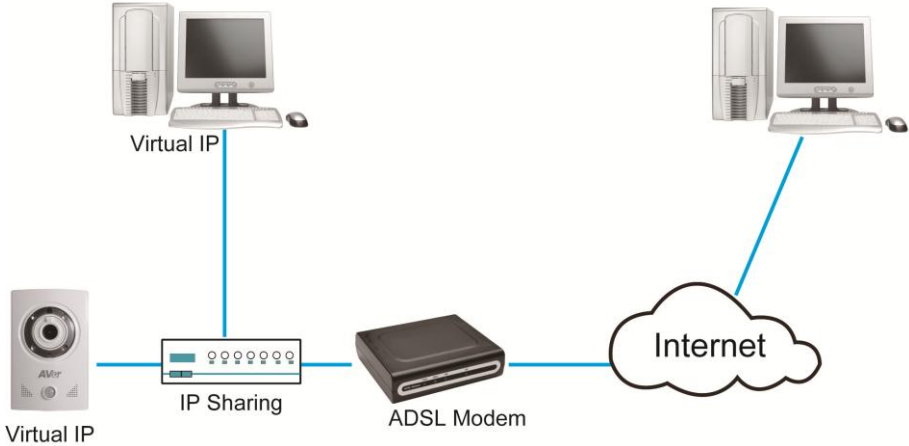
1. Real IP
2. PPPoE

ADSL Modem

Internet

- a. Internet Access: ADSL or Cable Modem
- b. IP address: More than one real IP
- c. IP camera and PC connect to the Internet
- d. For fixed real IP, set up the IP into IP camera and PC. For dynamic IP, start PPPoE.

■ Configuration 2



- a. Internet Access: ADSL or Cable Modem
- b. IP address: one real IP
- c. IP camera and PC connect to the Internet
- d. Device needed: IP sharing
- e. Use virtual IP, set up port forwarding in IP sharing.(Please refer to Network Setting→Other 1→UPnP Port Forwarding)

Factory Default

1. To recover the default IP address and password, please follow the following steps.
2. Remove power and Ethernet cable.



3. Press and hold the button and connect power and Ethernet cable to the camera again and hold for around 20 seconds for system booting.
4. Release the button when camera finishes the process.
5. Re-login the camera using the default IP (<http://192.168.1.168>) or DHCP, and user name (admin), password (admin).

Troubleshooting

Here are some useful tips on how to solve some common problems.

Problem	Solution
I forgot the account and password for FC1020-P. How can I go back to default setting?	Please refer to the manual of “Factory Default setting” description.
I recorded video file in H.264 file format but failed to playback on Media Player (V.9).	Default Windows Media Player doesn't have H.264 decoder so that you can't playback the file successfully. Please use VLC program to playback the video file. You can search this free program on Internet.
When I use Chinese words as the Gmail title while motion triggered, it turns to be nonsense characters displayed on my Gmail.	It's the spec limitation and please only use English or numbers as mail title to avoid this phenomenon.
I use VLC and connect three RTSP streams (stream 1, 2, 3) at the same time. However, it can't work properly.	Due to spec limitation, please connect one stream each time.

Appendix

FC1020-P is compliant with microSD/SDHC card and to ensure recording quality, and please use the following memory cards.

MicroSD/SDHC card
Transcend SD class4 32GB
Transcend SDHC class10 64GB
SanDisk SDHC class4 32GB
SanDisk SDHC class10 64GB

FCC NOTICE (Class A)



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Federal Communications Commission Statement

NOTE- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Class A ITE

Class A ITE is a category of all other ITE which satisfies the class A ITE limits but not the class B ITE limits. Such equipment should not be restricted in its sale but the following warning shall be included in the instructions for use:

Warning -This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

European Community Compliance Statement (Class A)



This product is herewith confirmed to comply with the requirements set out in the Council Directives on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive 2004/108/EC.

Warning - This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures to correct this interference.

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WARNING

TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. WARRANTY VOID FOR ANY UNAUTHORIZED PRODUCT MODIFICATION.



THE MARK OF CROSSED-OUT WHEELED BIN INDICATES THAT THIS PRODUCT MUST NOT BE DISPOSED OF WITH YOUR OTHER HOUSEHOLD WASTE. INSTEAD, YOU NEED TO DISPOSE OF THE WASTE EQUIPMENT BY HANDING IT OVER TO A DESIGNATED COLLECTION POINT FOR THE RECYCLING OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT. FOR MORE INFORMATION ABOUT WHERE TO DROP OFF YOUR WASTE EQUIPMENT FOR RECYCLING, PLEASE CONTACT YOUR HOUSEHOLD WASTE DISPOSAL SERVICE OR THE SHOP WHERE YOU PURCHASED THE PRODUCT.

Limited Warranty

AVer Information, Inc. (“AVer”) warrants that the applicable product (“Product”) substantially conforms to AVer’s documentation for the product and that its manufacture and components are free of defects in material and workmanship under normal use. “You” as used in this agreement means you individually or the business entity on whose behalf you use or install the product, as applicable. This limited warranty extends only to You as the original purchaser. Except for the foregoing, the Product is provided “AS IS.” In no event does AVer warrant that You will be able to operate the Product without problems or interruptions, or that the Product is suitable for your purposes. Your exclusive remedy and the entire liability of AVer under this paragraph shall be, at AVer’s option, the repair or replacement of the Product with the same or a comparable product. This warranty does not apply to (a) any Product on which the serial number has been defaced, modified, or removed, or (b) cartons, cases, batteries, cabinets, tapes, or accessories used with this product. This warranty does not apply to any Product that has suffered damage, deterioration or malfunction due to (a) accident, abuse, misuse, neglect, fire, water, lightning, or other acts of nature, commercial or industrial use, unauthorized product modification or failure to follow instructions included with the Product, (b) misapplication of service by someone other than the manufacturer’s representative, (c) any shipment damages (such claims must be made with the carrier), or (d) any other causes that do not relate to a Product defect. The Warranty Period of any repaired or replaced Product shall be the longer of (a) the original Warranty Period or (b) thirty (30) days from the date of delivery of the repaired or replaced product.

Limitations of Warranty

AVer makes no warranties to any third party. You are responsible for all claims, damages, settlements, expenses, and attorneys’ fees with respect to claims made against You as a result of Your use or misuse of the Product. This warranty applies only if the Product is installed, operated, maintained, and used in accordance with AVer specifications. Specifically, the warranties do not extend to any failure caused by (i) accident, unusual physical, electrical, or electromagnetic stress, neglect or misuse, (ii) fluctuations in electrical power beyond AVer specifications, (iii) use of the Product with any accessories or options not furnished by AVer or its authorized agents, or (iv) installation, alteration, or repair of the Product by anyone other than AVer or its authorized agents.

Disclaimer of Warranty

Except as expressly provided otherwise herein and to the maximum extent permitted by applicable law, AVer disclaims all other warranties with respect to the product, whether express, implied, statutory or otherwise, including without limitation, satisfactory quality, course of dealing, trade usage or practice or the implied warranties of merchantability, fitness for a particular purpose or noninfringement of third party rights.

Limitation of Liability

In no event shall aver be liable for indirect, incidental, special, exemplary, punitive, or consequential damages of any nature including, but not limited to, loss of profits, data, revenue, production, or use, business interruption, or procurement of substitute goods or services arising out of or in connection with this limited warranty, or the use or performance of any product, whether based on contract or tort, including negligence, or any other legal theory, even if aver has advised of the possibility of such damages. AVer's total, aggregate liability for damages of any nature, regardless of form of action, shall in no event exceed the amount paid by you to aver for the specific product upon which liability is based.

Governing Law and Your Rights

This warranty gives you specific legal rights; You may also have other rights granted under state law. These rights vary from state to state.